

# Peak Oil

The greatest single event in modern times

by

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Stockholm 2023

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To my teacher in energy matters, Richard Heinberg

# Contents

Preface .....	9
A quote about the fast collapse of oil production .....	10
Our leaders have not control over the situation .....	10
Something about Peak Oil .....	12
A quote about our situation.....	12
Kurt Vonnegut's excuse to coming generations .....	13
Quote from the book "Why your world is about to get a whole lot smaller" by Jeff Rubin .....	13
Something about the oil- and gas industry .....	14
Chris Martenson about shale oil .....	15
The world's biggest oil field is declining .....	15
The total oil production of the world passed its peak in November 2018, according to Gail Tverberg .....	16
Attaining ambitious emission goals means radical population reduction...	17
From a dream the night to 4.11.....	18
Something fundamental on oil exports .....	19
The world is now facing the coming ENERGY CLIFF .....	21
Oil can stop flowing from wars and financial crashes.....	22
The oil industry is collapsing right in front of our eyes.....	22
Steve St. Angelo on SrsRocco Report about renewable energy .....	24
Gail Tverberg about why renewables won't save us.....	25
Louis Arnoux about the thermodynamics of the Oil Collapse.....	27
Essay by Umair Haque: "This is the Dawn of the Age of Collapse. Our Civilization is Now Reaching an Omega Point — the Point of Irreversible Collapse". And my remarks.....	28

A good new article about Peak Oil .....	29
A good youtubevideo presentation on Peak Oil by anthropologist Joseph Tainter with my comments .....	29
Will next year be the year when we get a reckoning in the shale oil industry? .....	30
Good comment regarding nGeni Green Box Technology Class.....	31
Really insightsful writings about Peak Oil .....	31
A very good article about Peak Oil.....	32
The collapse of the U.S. Shale Oil Production has now begun .....	33
Very good movie about the coming energy cliff.....	34
Will An Oil Price Spike Be The Next Blow To The Economy? .....	34
What energy expert Gail Tverberg recently said about our fossil fuel reserves .....	35
“Government Agency Warns Global Oil Industry Is on the Brink of a Meltdown” .....	36
A hard truth about renewable energy, from Tim Watkins .....	37
“Sustainability is wishful thinking’: get ready for the energy downshift” .	38
"The world is already running seriously short of oil and coal." (Gail Tverberg) .....	39
Peak Oil is here, says Steve St. Angelo on SrsRocco Report .....	40
Something about Peak Oil. And some trends that will be worsening in the future.....	42
"The worst energy crisis in modern history is here, and it is going to get a lot worse" .....	50
Wise words by petroleum engineer Jean Laherrère .....	51
The insane price of natural gas in Europe .....	51
In some sense, Peak Oil was reached already 2005. That was "peak cheap oil". .....	51
Conventional oil production is declining. A case for rejoicing.....	54

The end of abundance is here for the world, says Emmanuel Macron .....	57
A good parable for Peak Oil .....	59
A simple explanation of the oil geologist Jeffrey J. Brown's "Export Land Model" .....	60
Important debate between Ron Patterson and Dennis Coyne at Peak Oil Barrel .....	61
Art Berman says that the oil age reached a peak already in 1977 .....	62
Russia's oil production is in decline. The three top oil producers in the world have peaked or are near their peak. ....	63
Economy as if energy matters. The work of economist Tim Morgan.....	66
Why I focus so much on crude oil on this blog .....	69
The world probably had its post-pandemic oil production peak in January 2022 .....	71
All countries should ration their remaining oil, and plan for the end of the oil age. ....	74
Renewables will make our energy crisis worse .....	76
Good recent article about Peak Oil by Richard Heinberg .....	78
Please read this: "Oil, war and the fate of industrial societies", by Richard Heinberg, originally published by Resilience.org, October 13, 2022.....	78
"Most fossil fuel reserves will be left in the ground because of low prices" (Gail Tverberg) .....	78
The failed Peak Oil predictions of Colin Campbell and Jean Laherrère .....	81
Smart statement by Goehring & Rozenchwajg about renewable energy .....	88
"Peak Oil means peak everything" (Alice Friedemann) And some comments to Friedemanns optimism about the climate.....	89
A very important update on where we are in the Peak Oil story.....	91
Civilization's Scylla and Charybdis .....	91
Alice Friedemann says that global natural gas production possibly	

peaked in 2019.....	93
Peak Oil update: On the current global diesel shortage.....	95
Peak Cheap Oil even in the unprofitable shale oil industry, a big Ponzi Scheme.....	96
Richard Heinberg on the shale oil industry ("fracking" industry) ....	100
Shale oil has peaked, because according to Tom Lewis, the Permian shale basin has peaked. The truth about fracking. ....	103
Alice Friedemann on the future of oil.....	109
Colin Campbell, the father of the Peak Oil-movement, died recently .....	109
We won't have a green transition, and here's why: .....	110
Bloomberg warns of global diesel shortage.....	111
Something isn't right with the narrative about Iraqi oil production. Has Iraqi oil peaked? .....	112
The Shale Oil boom is over, the Shale Oil industry is running out of sweet spots.....	115
Interesting blogpost by Steve St. Angelo about the Shale Oil industry .....	118
An important article about Peak Oil .....	119
We have to safely bury our nuclear waste while we still have the fossil fuels to do it .....	120
About the prophetic year 2048, Israel, the Dead Sea Scrolls, our oil reserves and the establishment of the Millennial Kingdom.....	121
Something on "the green transition" and its impossibility.....	126
40 % of all US oil is not derived from oil.....	129
The shale oil industry is running out of sweet spots. Part 2. ....	132
When will US shale oil peak?.....	134
Something on the Oil Depletion Countdown Clocks on the internet	139
EROEI of industrial civilization is declining with an accelerated rate of	

decline.....	143
The age of scarcity is here .....	151
An important lesson in energy mathematics.....	152
More about the Energy Cliff, EROEI and the accelerated decline rate of oil.....	155
Peak All Liquids in 2025/2026? Conventional oil has begun to decline. ....	160
When will the Permian basin shale play peak?.....	165
According to actuary and academic Peak Oil-expert Gail Tverberg, the decline of oil has begun. ....	166
The collapse of civilization follows an accelerated rate of decline curve .....	170
The oil imports of the great empires: US, EU, China and India. More global net oil exports mathematics. ....	174
The Essene prophetic calendar and the final period of history, 2025-2075 .....	179
Global oil reserve mathematics. How many years of conventional oil do we have left?.....	181
The cost of climate change is a part of the EROEI of oil and all fossil fuels .....	187
Soaring prices for just about everything will destroy the shale oil industry .....	190
What "enhanced oil recovery", or pressing oil production to maximal capacity, does to our oil reserves .....	192



## **Preface**

In this book I collect blog posts about Peak Oil from some of my blogs since 2014, that is from the blog "För Naturens Skull", the blog "Forest Man" and the blog "I väntan på Jesus. I put the blog posts in chronological order and date them.

I publish this book in the knowledge that Peak Oil is perhaps the greatest single event of modern times, an event that coincides with, indeed is the cause of, Peak Civilization. We will never again be as rich as we were in November 2018. And then I counted on official figures, the figures of the companies and the globalists, which are often far from the truth. Some even say that the decline of civilization, or the collapse of civilization, began little by little already in the 70s. But I'll give the enemy some leeway here, and drive on their half of the playground a little bit, and then I can say with certainty that Peak Oil arrived no later than November 2018. Peak Oil for all kinds of liquids. Peak All Liquids.

Lars Larsen, Stockholm 20.9.2022

## **A quote about the fast collapse of oil production**

"Given that oil is a non-renewable resource, the faster we produce it today, and the more aggressively we try to keep production high, the steeper the decline will be when it begins."

(Rauli Partanen/Harri Paloheimo/Heikki Waris in the book "The world after cheap oil" 2014)

2015-12-05

## **Our leaders have not control over the situation**

"People say that I am hard core about some of this stuff but I know because I have been to Davos, and I've sat with Bill Clinton and I've sat with Bill Gates and I've sat with Tony Blair and I've sat with Nancy Pelosi. I've sat with all these people who we think are in charge, and they don't know what to do. Take that in: they don't know what to do! You think you're scared? You think you're terrified? They have the Pentagon's intelligence, they have every

major corporation's input; Shell Oil that has done this survey and study around the peak oil problem. You think we've got to get on the Internet and say, "Peak oil!" because the system doesn't know about it? They know, and they don't know what to do. And they are terrified that if they do anything they'll lose their positions. So they keep juggling chickens and chainsaws and hope it works out just like most of us everyday at work. That's real, that's real."

(Van Jones, September 2007)

"They try to keep the system going for another day. It's all about another day. One more day."

(Guy McPherson, December 2015)

"The current boom in fracking natural gas and the extraction of petroleum products from tar sands weren't anticipated in the 1970s, but the expansion of new technologies to exploit resources pushes back the collapse "one to two decades" but "when it occurs the speed of decline is even greater."

(Peter Dolack, quoting Graham Turner in the blogpost "Limits to Growth is on schedule. Collapse likely around 2020" on the blog "Energy Skeptic" 4.4.2016)

2016-04-10

## **Something about Peak Oil**

"The problem is with those “reserves”. Today’s reserves are just not the same as those earlier reserves. All the good cheap stuff has already been sucked up. We are now left with dregs at the bottom of the barrel. All today’s new oil is harder to find, depletes a whole lot faster, and costs many times as much to produce. None of the cheap stuff is left except in a few old super giant fields that are undergoing infill drilling like there is no tomorrow.

Once again, we are at peak oil right now. The peak will straddle the 2014 and 2015 time line. 2016 will be the first full post peak calendar year. It really doesn’t matter how many barrels of oil are left in the ground. The point is we will never again pull it out of the ground at the same rate we are pulling it out right now."

(Ron Patterson, in the article "Why Peak Oil Is Finally Here" on OilPrice.com 2.2.2015)

2016-04-11

## **A quote about our situation**

"The oil seesaw is now in motion, high prices (broke economies) followed by low prices (broke energy sector) will eventually lead to signs at the gas stations “NO GAS” or alternatively “NO MONEY” in the pockets of unemployed RNA. Just sort of crept-up on our perceptive leaders who now scramble to squeeze oil from rocks and

make sure the Middle East jugular doesn't get cut. That's the way exponential growth is, it's the last doubling that catches you by surprise."

(James in a post on the blog "Megacancer")

2016-04-15

## **Kurt Vonnegut's excuse to coming generations**

"Dear future generations: Please accept our apologies. We were rolling drunk on petroleum."

(Kurt Vonnegut on Twitter 12.9. 2014)

2016-09-23

## **Quote from the book "Why your world is about to get a whole lot smaller" by Jeff Rubin**

"Back when our food came from the family farm down the road, a farmer got about three calories of food back for every calorie of work he invested in his land. Today, now that the work is done by gigantic

diesel-powered tractors and combines and trucks, we get one calorie back for every ten invested. Like the Canadian oil sands, this is another example of a diminishing energy rate of return. And that diminishing energy rate of return just gets more daunting with every rise in the price of oil."

(Jeff Rubin in the book "Why your world is about to get a whole lot smaller", 2009)

2017-03-11

## **Something about the oil- and gas industry**

**"Lastly.... the global oil and gas industry is now cannibalizing itself just to stay alive. It has added a massive amount of debt to produce very low-quality Shale Oil-Gas and Oil Sands just to keep the world economies from collapsing."**

"At some point... the massive amount of debt will take down this system, and with it, the global oil industry. This will have an extremely negative impact on the values of most STOCKS, BONDS & REAL ESTATE. If you have well balanced portfolio in these three asset classes, then you are in serious financial trouble in the future."

(from a post on the blog "Damn the Matrix")

2017-08-09

## **Chris Martenson about shale oil**

"Shale oil is being pumped out of the ground as fast as possible, surprisingly with no profits to be seen (collectively, the shale oil industry has been a massive loss-making enterprise so far). Drillers have to pump to simply to keep the debt and equity that's already in play in motion. Shale holes aren't being drilled and fracked because it makes sense, or because it's the right thing to do at this moment in time; but simply because all of that money printed by the Federal Reserve had to go somewhere and do something. And right now, it's flooding into the oil patch.

Any sane person should sit back, scan the ratio of mess-to-benefit provided by shale oil and shout: *Stop!* But apparently we "need" the jobs, the money, the oil *Right Now!* "

(from an important blog post on the blog Peak Prosperity by Chris Martenson. Unfortunately it is not available any more on the internet)

2018-09-19

## **The world's biggest oil field is declining**

The world's largest oil field, Ghawar in Saudi Arabia, has experienced its peak and is in decline, see the article "The end of the

Oil Giants: and what it means" by Dr. Louis Arnoux on the blog SRSRocco Report 15.5.2019. An excerpt comes here:

*"Recently, Saudi Aramco, the world largest oil exporter, has acknowledged that Ghawar, the world largest oil field, is in decline. The news went mostly unnoticed except in the specialised media. OK, so the Saudi have a bit of bother, so what? In fact, this piece of news is extremely important."*

2019-07-01

## **The total oil production of the world passed its peak in November 2018, according to Gail Tverberg**

"Gail the actuary" Tverberg, a peakoiler whose seriousness I have great respect for, writes something very important in a recent blog post (22.8.2019) on his blog "Our Finite World", the post is called "Debunking 'Lower Oil Supply Will Raise Prices' " \*:

*"Figure 1 shows that world oil supply hit a peak in November 2018 and has declined since then, mostly because of a decline in OPEC's production. So, total oil production seems to be down for about eight months, relative to the peak in November 2018."*

Note that this applies to all oil production, including unconventional oil, such as fracking oil and oil sands. Gail coming up with this should be front page news all over the world, but alas, almost no one mentions it. You will quickly find out if you google "Peak Oil November 2018".



I think the global recession we are in is a lot because oil has peaked. After all, oil was largely behind the financial crisis of 2007-2008. That and the global financial bubbles are perhaps the most important factors, and they are connected.

The fall of Babylon has begun, I feel, and it feels liberating. Now civilization is going downhill faster and faster. It will be incredibly exciting to follow the news in the time to come.

\* Tverberg wrote a whole blog post about this in February 2019: “Have We Already Passed World Peak Oil and World Peak Coal?” , where she meant that we reached Peak Oil and Peak Coal around the same time (I think she means that coal peaked in 2013, according to the graph she provides, and according to other experts)

2019-09-11

## **Attaining ambitious emission goals means radical population reduction**

"More simply, as I've said in another thread, Greta Thunberg is flat out wrong when she tells the UN to “just keep the oil in the ground”. Contrarily, the day that happens (and there will come a day when we literally can't squeeze another drop out of the shale plays) is the day the die-off begins. Energy consumption = Population, pure and simple."

(quote from the Posten "CMV: The Collapse will result in the genocide of ~80% of the population" yesterday on "Reddit: Collapse")

It is significant for the global environmental establishment to want to eat the cake and keep it. They want to save the climate, but without sacrificing lifestyle and without population reduction. Instead, they want "green growth", which is to be able to continue "business as usual" with so-called "green technology".

It's absurd.

Few ever even mention the simple equation that:

strong climate changes = collapse of civilization = radical population reduction

## **From a dream the night to 4.11.**

(the dream was partly in English!)

If you really love something, you make a model of it in your head and heart, and follow and watch it day and night, which gives you a certain amount of clairvoyance in regard to this subject. I believe for example that my beloved economist and peakoilier Chris Martenson has a certain amount of real clairvoyance regarding the US economy and US energy situation, founded by decades of study and love. It might have some "paranormal" aspect to it as well.

2019-10-18

## Something fundamental on oil exports

Chris Martenson had a very important interview with Jeffrey Brown on the matter of oil exports on his Peak Prosperity blog on 9/13. 2015, called "Jeffrey Brown: To Understand The Oil Story, You Need To Understand Exports"

(1) The gist of the interview comes here:

**Chris Martenson:** And, in 2014, I read that China became the largest net importer of crude oil, and I just read, I think it was just yesterday that China's use of gasoline was up by a stunning 17% in the first months of 2015 as compared to the same period in 2014. So, how long would it be at current rates of import growth before China and India are essentially consuming 100% of what you would determine are the globally available world crude exports?

**Jeffrey Brown:** Well, you can do the same thing, what I call available net exports, which is global net exports less China and India's net imports. That metric fell from 41 million barrels a day in 2005 to 34 million barrels a day in 2013. So 41 to 34, and again, we

don't have complete data for 2014 yet, but the pattern, apparently, continued in 2014. And, by all available data suggests it's continuing in 2015.

Now, the math is quite similar. The problem is given an inevitable decline in global net exports, which we have seen since 2005, unless China and India cut their net imports at the same rate as the rate of decline in global net exports, the resulting rate of decline in available net exports to other importing countries—other than China and India—will exceed the rate of decline in global net exports and the rate of decline in available net exports will accelerate.

Now, for example, the observed rate of decline in global net exports was 0.8%, slightly less than 1% per year from 2005 to '13. But, the rate of decline in available net exports was almost 2.3% per year, three times higher than 2005 to '13. So, it's a mathematical certainty that the only way that the volume of oil available to importers other than China and India will not show an accelerating rate of decline is if they cut their net imports at the same rate as the rate of decline in durable net exports or at a faster rate.

**Chris Martenson:** Well, they're not going to do that willingly, obviously. No country would. India's already on record saying, "Hey, you Westerners had your run at this energy story. We still have a big chunk of our population without electricity, without cars. We'd like to get them access to that. Then we can talk about these other issues you might want to talk about." But, what you're saying is that available net exports are declining by, what, 2.5 percent per year, rounding a little bit, and so if we just follow that math out, how long is it before just China and India are consuming 100% of available world exports?

**Jeffrey Brown:** Well, if you extrapolate, what you can do is do an ECI ratio, but it'd be the global net exports divided by Chindia's net imports. I call it the GNE over CNI ratio. If you extrapolate that out, they would be theoretically consuming 100% of global net exports around the year 2032. So, basically 17 years from now."

2019-11-03 (this is a summary of a blogpost from this date, the changes are made 15.5.2023)

## **The world is now facing the coming ENERGY CLIFF**

*"The world is now facing the coming ENERGY CLIFF. What's the energy cliff? It's when the oil industry can no longer sustain oil production enough to offset the future declines. This will be terrible news for most Stocks, Bonds, and Real Estate that derive their value based on growing oil production."*

(From the blogpost "ExxonMobil's Financials Continue To Hemorrhage During Q2 2020" 3.8.2020 at SrsRocco Report)

Think about a drilling rig. The drillers pump up oil. But all the oil they pump up, go to fuel the machine they pump with. That is the energy cliff. It means that there is no profitability in the business any more. I have followed these things for six years, very closely, and I know that the death sentence over the oil industry has been uttered for sure. So, do not invest in the oil industry any more if you want to save your life.

2020-08-04

## **Oil can stop flowing from wars and financial crashes**

"Although peak oil is often spoken of as a geological issue, it (the oil, my remark) can also stop flowing from wars, financial crashes, and in Russia's case, from corruption."

(From the blogpost "Maddow's "Blowout", Russian peak oil, corruption, fake news" 21.8.2020 by Alice Friedemann)

**My comment:** A very important insight. Usually peak oilers have not taken this to account when they have calculated the date for peak oil.

2020-08-27

## **The oil industry is collapsing right in front of our eyes**

Michael Snyder writes in a recent blogpost on The Economic Collapse Blog:

"There are certain industries that are simply being eviscerated right now. For instance, check out what is happening to the U.S. oil industry...:

*"Texas, the largest oil-producing state in the U.S., had 440 land rigs at the end of August last year, according to Baker Hughes' weekly count. That number had shrunk to 104 this year.*

*The story was the same in North Dakota, the second-largest oil-producing state: The rig count was down from 51 to 10, according to Baker Hughes."*

Those numbers are so horrifying that they are hard to believe.

I know people that work in the oil industry, and those jobs can be extremely well paying. But now much of the industry has completely shut down, and countless numbers of workers have been forced to file for unemployment.

In Wyoming, the oil industry has been at the core of the state's economy since the 1800s, but in July the official rig count in the state actually fell to zero...

*"And, in Wyoming, where the oil and gas industry is the state's economic backbone, the rig count dropped to zero for one week in July for the first time since 1884, Pete Obermueller, executive director of the Petroleum Association of Wyoming Executive Director, told USA TODAY."*

We are in the midst of a major economic nightmare, and conditions are eventually going to get far, far worse than they are right now."

**My comment:** I have for a long time believed that the oil industry is the achilles heel of civilization, and that when the oil industry has collapsed, it's the end of civilization, yes of humanity. The news above are so glorious that they are hard to believe. Are we really going to enter the Millennial Kingdom so soon? How I have waited for this!!!!!!!

2020-09-08

## **Steve St. Angelo on SrsRocco Report about renewable energy**

*"Lastly, it is simply amazing how intelligent people are making extremely stupid decisions regarding future energy supply. If we continue to increase wind and solar power generation globally, it will only make the coming ENERGY CLIFF impact much worse than if we remained on fossil fuels alone."*

(From the blogpost "THE INSANITY CONTINUES: Massive Diesel Engines Used To Balance Australia's Renewable Energy Fiasco" 28.9.2020 on SrsRocco Report)

2020-09-28



## **Gail Tverberg about why renewables won't save us**

**"[5] Modelers missed the fact that fossil fuel extraction would disappear because of low prices, leaving nearly all reserves and other resources in the ground. Modelers instead assumed that renewables would always be an extension of a fossil fuel-powered system.**

The thing that most people do not understand is that commodity prices are set by the laws of physics, so that supply and demand are in balance. Demand is really very close to “affordability.” If there is too much wage/wealth disparity, commodity prices tend to fall too low. In a globalized world, many workers earn only a few dollars a day. Because of their low wages, these low-paid workers cannot afford to purchase very much of the world’s goods and services. The use of robots tends to produce a similar result because robots can’t actually purchase goods and services made by the economy.

Thus, modelers looking at Energy Return on Energy Invested (EROI) for wind and for solar assumed that they would always be used inside of a fossil fuel powered system that could provide heavily subsidized balancing for their intermittent output. They made calculations as if intermittent electricity is equivalent to electricity that can be controlled to provide electricity when it is needed. Their calculations seemed to suggest that making wind and solar would be useful. The thing that was overlooked was that this was only possible within a system where other fuels would provide balancing at a very low cost.

**[6] The same issue of low demand leading to low prices affects commodities of all kinds. As a result, many of the future resources that modelers count on, and that companies depend upon as the basis for borrowing, are unlikely to really be available.**

Commodities of all kinds are being affected by low demand and low selling prices. The problem giving rise to low prices seems to be related to excessive specialization, excessive use of capital goods to replace labor, and excessive use of globalization. These issues are all related to the needs of a world economy that depends on a high level of technology. In such an economy, too much of the output of the economy goes to producing devices and to paying highly trained workers. Little is left for non-elite workers.

The low selling prices of commodities makes it impossible for employers to pay adequate wages to most of their workers. These low wages, in turn, feed through to the uprisings we have been seeing in the last couple of years. These uprisings are part of “Revolutions and Wars” mentioned in Figure 1. It is difficult to see how this problem will disappear without a major change in the “World Order,” mentioned in the same figure.

Because the problem of low commodity prices is widespread, our ability to produce electrical backup of all kinds, including the ability to make batteries, can be expected to become an increasing problem. Commodities, such as lithium, suffer from low prices, not unlike the low prices for coal and oil. These low prices lead to cutbacks in their production and local uprisings."

(From the blogpost “Why a Great Reset Based on Green Energy Isn’t Possible” at the blog Our Finite World 17.7.2020. Gail Tverberg is an academic "peak-oiler")

2020-10-02

## **Louis Arnoux about the thermodynamics of the Oil Collapse**

*"So at that point, which is very near now, the oil has absolutely zero value and stays in the ground. Oil has value if you can generate net energy and use that to generate economic growth. If you can't do that, the barrel is of no interest at all for anybody"*

(From the article "THERMODYNAMIC OIL COLLAPSE & FUTURE: Interview With Dr. Louis Arnoux" 7.10.2020 at SrsRocco Report.

**My remark about the interview:** Louis is quite realistic about the oil situation, but not at all concerning the solutions. His solutions has a smell of Elon Musk's quick techno-fixes and are delusional. His analysis here is quite superficial. There is apparently not enough time for enough deep analysis of the solutions. I do not believe technology can fix our predicament, only Christ can)

2020-10-12

## **Essay by Umair Haque: "This is the Dawn of the Age of Collapse. Our Civilization is Now Reaching an Omega Point — the Point of Irreversible Collapse". And my remarks.**

Excellent article, a bird's-eye view of our situation.(The article can be read here. It was published right before I wrote this article. Later addition)

**My remarks:** Umair believes our civilization will collapse completely in 10-15 years, and reach an "Omega-point" where the costs of our existential threats as a civilization will exceed our ability to pay for it. We are already more than half way there, he says. He counts out climate change, ecological collapse and pandemics as examples of the threats which cost much. But he forgets totally to mention peak energy (especially "peak oil" and "peak coal") as a threat, I would say it is as big a threat for civilization (not for planet earth) as climate change and ecological collapse together, and consumes a horrible lot of tax payers' money already. Think how much just the renewable energy industry and all its links (things like electric cars and so on) cost to the economy. I would say that if we take peak energy into account, the end of civilization is even closer upon us than what Umair projects, maybe as close as 2022, if Jesus do not returns before that. That's my best guess. 2022 we are bankrupt as a civilization, then we, according to Louis Arnou, have no net energy left in the oil industry for the rest of global industry to use. That's also the point where we probably have a "Blue Ocean Event", a time when virtually all of the summer ice will be melted in the Arctic, according to some educated guesses, for example that of Dr. Paul Beckwith. This will be a tipping point in the global climate

change of gigantic proportions. So ecological collapse will probably also reach a tipping point at that time, and the costs for that, too.

2020-10-24

## **A good new article about Peak Oil**

Remember "Peak Oil"? Almost nobody mentions it today. But the very thing never went away. So says a new article written 16 November 2020, "Peak Oil Never Went Away", on the blog "Economics from the top down" and I agree.

P.S. In the Swedish language Stellan Tengroth on the blog "Tillväxt-reflektera" had an article in February named "Peak Oil är en realitet" (Peak Oil is a reality), with somewhat optimistic numbers.

2020-11-23

## **A good youtubevideo presentation on Peak Oil by anthropologist Joseph Tainter with my comments**

Its name is "Joseph Tainter: Energy Gain and Future Energy: Collapse or Sustainability?" From 2007. I don't agree, though, with his last hopeful conclusion. Everything he said in his actual presentation in fact mounted against his final conclusion, that we will

find a way through all this with new technology. Strange. But such things you might say to comfort your listeners and yourself. You actually have to do such things if you do not believe in a higher power than earthly humans, a power who has a plan for humanity and will rescue us itself, with for example the "second coming of Jesus". I think all major religions agree that humanity will be safe in the end in such a way. Or am I wrong?

2020-11-29

## **Will next year be the year when we get a reckoning in the shale oil industry?**

The Peak Oil educator and author Richard Heinberg gave 3.1. 2019 a short interview on youtube called "Richard Heinberg: Peak Oil & The Coming Crash" where he says that a reckoning in the shale oil industry will most likely happen in the next 2-3 years or so. This means next year and the year after that. It could be true, based upon what I have read on the SrsRocco Report blog.

Remember that Richard Heinberg is in no way a fanatical or uneducated speaker on Peak Oil matters, he is counted as a more moderate commentator, according to Wikipedia. He is in my view one of the most educated peakoilers out there.

2020-11-30

## **Good comment regarding nGeni Green Box Technology Class**

*"And regarding nGeni, it's hard to tell from the limited information they are giving away, but it just looks like another attempt at using technology for delaying the inevitable. I like Nicole Foss's line of reasoning – renewable energy and other technology based solutions to energy descent all rely of fossil fuel based industries to develop and maintain them. When the oil runs out all of this technology will be stranded. We should be using what resources we have left to build resilience, not new technologies."*

(an old comment by johnnyb on the article “Do we have five years left.....?” from October 2016 at the Damn the Matrix-blog)

**My comment:** nGeni, is a new technology class (in an article on SrsRocco Report blog it is described thus: Louis's (Arnoux') nGeni Green Box is simply trying to tap into the massive amount of WASTE HEAT-ENERGY that we now take for granted ) that tries to be so energy-efficient as possible.

2020-11-30

## **Really insightful writings about Peak Oil**

on the blog "Economics from the Top Down". His (Blair Fix) latest essay on the topic is from 3.12.2020, its name is "As we exhaust our oil, it will be cheaper but less affordable". It's even better and clearer than Gail Tverberg's Peak Oil-writings.

2020-12-05

## **A very good article about Peak Oil**

This is a very good article about Peak Oil: "The narrative problem after peak oil", written by Tim Watkins at the "The consciousness of sheep"-blog 6.11.2020. It says that all oil, including oil from fracking and tar sands, peaked in November 2018, just like I believe, and will be declining ever since. And it says that industrial civilization is going to collapse around 2025-2026.

From the blogpost:

*"In his recent presentation, Simon Michaux from the Finnish Geological Survey highlights the downward trend in oil prices since the 2008 crash:*





*"Perhaps the more sobering interpretation of the post-2008 trends is that when those two trend lines meet, industrial civilisation is over."*

2020-12-17

## **The collapse of the U.S. Shale Oil Production has now begun**

*"It's official",* Steve St. Angelo says in the article "The Collapse Of U.S. Shale Oil Production Has Now Begun" on the SrsRocco Report blog 21.12.2020.

2020-12-22

## **Very good movie about the coming energy cliff**

in the article “GEOPOLITICS & EMPIRE INTERVIEW: The Energy Cliff, Green Energy Myth, Gold, Crypto, & Mad Max Future” on the Srsrocco Report blog 1.1.2021.

2021-01-04

## **Will An Oil Price Spike Be The Next Blow To The Economy?**

Really doomer-stuff out there on the Peak Prosperity-blog. Adam Taggart, the second main person who writes there, recently held a youtube-interview with petroleum geologist Art Berman, valued by me too, in an article here, with the same name as the headline of my article here, at the Peak Prosperity blog January 15, 2021, and in it Berman predicts a 30 percent rise in oil prices up until the middle of the year, because of supply problems, and says that it will be scary for the economy. Berman says in the interview, after Taggart have said that such an event will be *"sort of a nuclear impact on the industry in general"*, that: *"Yeah, the economy is fragile, I mean, you and I talked about this for years, before Covid was involved, and it's been fragile, more fragile than many people have seemed to admit,*

*for a long time. Now it's just absolutely delicate, and so, the last thing in the world that we can, we can tolerate right now are, is for the commodity, the major commodity, that effects everyone, it's price to go up in real terms."*

2021-01-16

## **What energy expert Gail Tverberg recently said about our fossil fuel reserves**

*"Most fossil fuel reserves will be left in the ground because of low prices"*

(From the recent article "Where Energy Modeling Goes Wrong" 3.2.2021 on the blog Our Finite World, in which Tverberg says that "it looks likely that the world economy may not be far from collapse")

*"My view is that most of the resources that seem to be available will be left in the ground because of low prices and problems associated with collapse, such as failing governments and broken supply lines. In any event, we do not really have the ability to fix the climate; the laws of physics will provide their own adjustment. We will simply need to live with whatever climate is provided. Humans lived through ice-ages in the past. Presumably, whatever remnant of humans remains after what seems to be an upcoming bottleneck will be able to live in suitable areas of the world in the future."*

(From the recent article "Why Collapse Occurs; Why It May Not Be Far Away" on the blog Our Finite World 25.2.2021)

2021-02-04

## **“Government Agency Warns Global Oil Industry Is on the Brink of a Meltdown”**

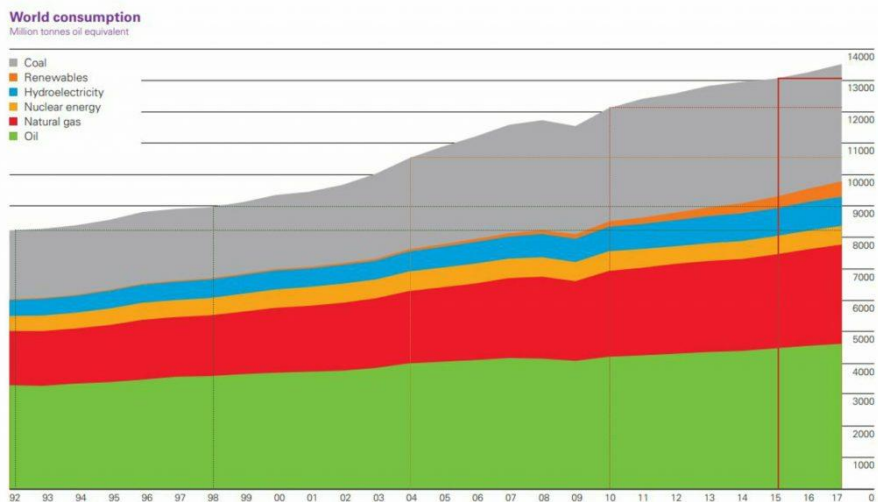
The headline of an article from February 4, 2020 by my beloved journalist and oil expert Nafeez Ahmed, on VICE. It reports about the so called "Finland Report" by the Geological Survey of Finland, written by Dr. Simon Michaux.

Ahmed says: *"The peer-reviewed report calls for the European Commission to consider oil as the world's most important "critical raw material." Despite offering a scathing critique of conventional peak oil theory, the report arrives at the shock conclusion that the economic viability of the entire global oil market could come undone within the next few years."*

2021-02-08

## A hard truth about renewable energy, from Tim Watkins

"...- instead of using the additional renewable energy to replace fossil fuels, NRREHTs (non-renewable renewable energy-harvesting technologies) have merely added to our energy consumption. Meanwhile, fossil fuel consumption continued to grow":



(Economist Tim Watkins in the article “Jevons in the fall” on the blog “The consciousness of sheep” 24.2.2021)

2021-02-24

## **“‘Sustainability is wishful thinking’: get ready for the energy downshift”**

Article in "Stuff", Nov. 14 2020.

Look also at this list of related articles, found in the article  
“Problems, Predicaments, and Technology” 12.3.2021 on the blog  
"Damn the Matrix":

Why we can’t reverse climate change with ‘negative emissions’  
technologies

Fixing the environment: when solutions become problems  
Carbon capture and conversion must not rely on rare metals

New study dismisses green growth policies as a route out of  
ecological emergency

Techno-fix futures will only accelerate climate chaos—don’t believe  
the hype

For a greener future, we must accept there’s nothing inherently  
sustainable about going digital

Why relying on new technology won’t save the planet  
New research shows hydrological limits in carbon capture and  
storage

The human factor limits hope of climate fixes  
‘Sustainability is wishful thinking’: get ready for the energy  
downshift

2021-03-23

## **"The world is already running seriously short of oil and coal." (Gail Tverberg)**

"Everything I can see says that world leaders are not able to face the possibility that the world is already running seriously short of oil and coal. Future supplies are likely to be much lower, and much more expensive, if they are available at all. Other energy types (including natural gas, nuclear, hydroelectric, wind and solar) are simply add-ons to a system built using coal and oil.

Current world leaders do not realize that the energy situation is very much like the water level in Lake Mead. Looking at it from the top, there still seems to be water there but, in fact, the required depth is lacking. Water for watering crops will soon be exhausted. The world's energy supply is not a whole lot different. The supposedly proven reserves do not tell us anything at all. It is the amount of fossil fuels that can be affordably extracted that is important. We have already exceeded the amount that can be affordably extracted. If central banks cut back future energy supplies using higher interest rates, we can expect to encounter major problems going forward."

(Energy expert and blogger Gail Tverberg in the blogpost "Why raising interest rates to reduce inflation may work out very badly", July 2022)

\* \* \*

"Saudi energy minister Prince Abdulaziz bin Salman, speaking at the World Utilities Congress in Abu Dhabi in early May, said, *"The world needs to wake up. The world is running out of energy capacity at all levels. It is a reality."*

(from the article "The Energy/Food Crisis is Far Worse than Most Americans Realize", by Richard Heinberg, May 2022)

2022-07-19

## **Peak Oil is here, says Steve St. Angelo on SrsRocco Report**

*"A decade ago, we were consuming 2.5 times the oil we were finding now; it's five times."*

(From the recent blogpost "Peak Gold & Peak Oil are here: Means big price moves coming" on SrsRocco Report)

*"...the U.S. has reached the Energy Cliff, and we have a recipe for disaster."*

(From the recent blogpost "Energy & Market update July 31st: Bear Market Rally Continues To Fool Investors While U.S. Reaches The Energy Cliff" on SrsRocco Report. The author, Steve St. Angelo, has for many years reiterated the phrase that "we are approaching the Energy Cliff", "as we heed into the Energy Cliff" and the like, but now he says that we have reached it)



Read about what the Energy Cliff in the article “Net Energy Cliff Will Lead to Collapse of Civilization” on the blog Energy Skeptic, from 11.12. 2019. The same article states:

*"Before peaking in 2006, the world production of conventional petroleum grew exponentially at 6.6% per year between 1880 and 1970. Although Hubbert drew symmetric rising and falling production curves, the declining side may be steeper than a bell curve, because the heroic measures we're taking now to keep production high (i.e. infill drilling, horizontal wells, enhanced oil recovery methods, etc.), may arrest decline for a while, but once decline begins, it will be more precipitous (Patzek 2007)."*

And the rest is from the same article:

#### "Export Land Model

*Oil producing countries are using more and more of their own (declining) oil as population and industry grows within their own nation, and they too need to use more and more energy to get at their difficult oil. This results in a similar chart to the net energy cliff — suddenly there will hardly be any oil to buy on the world markets. See Jeffrey Brown's article "The Export Capacity Index" (one of his statistics is that at the current rate of increasing imports of oil in India and China, these 2 countries alone would be importing 100% of available oil within 18 years)."*

(My remark: This article of Brown was published in February 2013)

\* \* \*

*"As we improve our technology to get at the remaining oil, we make the cliff on the other side even steeper as we get oil **now** that would have been available to future generations."*

\* \* \*

*"Since what remains is increasingly difficult and expensive to find, develop and extract, investment payback periods lengthen, eventually to impossibly long periods, or to periods that approach the useful life of the capital investment (effectively the same limit in the financial dimension as is an EROEI of 1). Which means it doesn't matter how much might theoretically be underground, the only thing that matters is how much is actually going to be economically feasible to recover; and that is going to be considerably less than 100% of what might be theoretically and technically possible to recover."*

2022-08-02

## **Something about Peak Oil. And some trends that will be worsening in the future**

In november 2018 humanity reached Peak Oil, according to many experts \* (read for example the article "[Peak Oil is here. World oil production peaked in 2018](#)" by Alice Friedemann on her blog Energy Skeptic 1.2.2022). There is, though, confusion on the subject, some experts say we haven't reached Peak Oil. Maybe the confusion lies in how we count the oil, what kinds of oil we count. Or then people put hope in a magical future rise of production. I stick with the ideas of the most published peakoilers [1]). Since then oil has been declining and it looks like it will continue that way. The academic peakoilier Gail Tverberg has stated that there is plenty of oil and coal and natural gas left, but most of it will be left in the ground in the future, because it will be too uneconomical to produce.

This means that bad economic trends in the present will worsen in the future, because oil is the lifeblood of society. That is also true with the climate trends. Bad trends will worsen.

Here is some of the most important trends which will worsen, and something we can do about it:

**1. Starvation will worsen.** It may reach Sweden in the end. We can alleviate this by eating all our garden apples and fruits, which we are far from doing now, harvesting all the nettles (brännäslor) there is, all the rose hips (nypon) there is, all the dandelions (maskros) there is and on the whole harvesting all the edible wild plants there is. And there is much. One can for example make tea of leafs, harvesting the nutrition of leafs in this way. One can conserve apples, by drying them on threads. One should develop one's skills in food conservation. Try to practice on some farm or by yourself. One should also compost all compostable material, for future permaculture farming and gardening.

**2. The cost of electricity and transportation fuel will rise.** The former can be alleviated by insulating our houses supereffectively, and heating our homes with firewood, if we have stoves. All trees in the forests should go to heating homes, and we should stop printing newspapers, journals, books and advertisement, just to save the forests, because we cannot heat our homes with firewood and print books and newspapers at the same time. We have to choose.

Another thing we can do is just saving electricity in all possible manners, using candles instead of electric light, for example.

The latter, lack of transportation fuel can be alleviated by biking more and walking more, and using more public transport.

**3. Heatwaves will worsen.** It can be alleviated by imbruing (väta) our clothes with water in the worst heat, sleeping and working with wet clothes, and spending the most critical hours by the sea or by

brooks (bäckar), cooling ourselves with swimming in the sea or in brook-water, which is the coldest water available in nature. One can also take cold showers, as long as we have electricity. When not, we should not work as much as today, so we can stand the heat.

**4. Unemployment will first rise**, and first after the collapse of civilization we will all be required to do hard work. The former can be alleviated by being creative, cultivating useful hobbies and working with the garden, cultivating one's own food, and in the winter working with needlecrafts (handarbeten) and reading and writing usefull stuff, developing one's spirit. The latter, the burden of hard work, means that we will all be needed to grow our own food and do forest work by hand to get firewood. This burden can be alleviated by letting go of all unuseful work and all unuseful things, **so that we only work to keep ourselves fed and warm**. We could for example let go of cleanliness, not washing our clothes and ourselves so often, or not at all, so that we can have all time and power for the essential work. Modern civilized cleanliness is not essential, we can sacrifice this, without losing much life quality (one gets used to smells). What we should not sacrifice, is our bodily health, and that can be risked by too much heavy bodily work in the fields and the gardens. Be careful here. Our spine is in the risk zone.

**\* Here is many more articles and reports about how we now are in Peak Oil, with the newest above, literature which may explain the present high inflation and the high energy prices that we have experienced recently, with a time above 100 dollar/barrel (now Brent Crude Oil Price is 95 dollar/barrel). There is eleven peakoilers who have stood out among the others in learning and expertise, and they are Richard Heinberg, Art Berman, Gail Tverberg, Chris Martenson, Nafeez Ahmed, Ron Patterson, Simon Michaux, Alice Friedemann, Ugo Bardi, Steve St. Angelo and Kurt Cobb. I try to find articles and youtubevideos by them:**

[PARADIGM SHIFT: END OF THE OIL AGE](#) (posted by Art Berman on his blog/homepage 15.8.2022)

From the article: "*World oil production is unlikely to regain November 2018 peak of 102 mmb/d.*"

[PEAK GOLD & PEAK OIL ARE HERE: Means Big Prices Moves Coming](#) (posted on SrsRocco Report by Steve St.Angelo 29.7.2022)

[We're past Peak Oil](#) (youtubevideo by Chris Martenson 12.7.2022)

[Richard Heinberg's Museletter #353: Deadly Optimism, Useful Pessimism](#), July 2022

In this article, Heinberg among other things states that conventional oil production started a production plateau 2005 and is now declining.

[How much oil remains for the world to produce? Comparing assessment methods, and separating fact from fiction](#) (article in [Current Research in Environmental Sustainability Volume 4](#), 2022, by Jean Laherrère, Charles A.S.Hall and Roger Bentley)

[Richard Heinberg's Museletter #351: The Energy/Food Crisis](#), May 2022

From the article: "The signs of energy crisis are everywhere. In Nigeria, Africa's most populous country, [airlines recently threatened to cancel](#) virtually all flights in response to surging kerosene prices. US retail gasoline prices just hit a [new record](#). And Europe is [preparing](#) for the likelihood of severe natural gas shortages next winter.

Saudi energy minister Prince Abdulaziz bin Salman, speaking at the World Utilities Congress in Abu Dhabi in early May, [said](#), “The world needs to wake up. The world is running out of energy capacity at all levels. It is a reality.” "

[Decline in World Conventional Oil Output and Peak Oil](#) (posted on the blog Peak Oil Barrel by Dennis Coyne, 25.4.2022)

This article puts the peak of conventional oil to 2016.

[The world has a major crude oil problem; expect conflict ahead](#) (posted on the blog Our Finite World, by Gail Tverberg, 21.4.2022)

Almost all production growth in world oil production since 2005 comes from US oil production. Gail Tverberg writes in this article about US oil production the following: *"Thus, while growth in US crude oil production greatly supported world growth in crude oil production in the 2009 to 2018 period, it is impossible to see this pattern continuing."*

[Peak Oil! OPEC+ and US Shale Oil Production is on the Decline!](#) (youtubevideo by Kingdom Exploration 15.4.2022)

From the video: *"Shale oil and gas peaked in 2019."*

[Prognosis and Conclusions: Oil from a Critical Raw Material Perspective](#) (posted on Greenpeoplesmedia 22.1.2022 by Simon Michaux)

[Has oil peaked?](#) (Posted at Post Carbon Institute by Richard Heinberg on October 9, 2020)

[The End of the Oil Age Is Upon Us](#) (Posted by Nafeez Ahmed on August 26, 2020 on Vice)

[Shale oil and gas fraud: A sign of a peak in oil supplies?](#) (posted on the blog Resource Insights by Kurt Cobb, 20.6.2020)

From the article: "*The U.S. oil boom was the principal source of increased world production for most of the last 15 years. [Without that boom and the boom in the Canadian tar sands](#), world oil production would have grown little or even declined. Now that U.S. shale oil production is receding—from an estimated 8.3 million barrels per day (mbpd) in November 2019 to 6.9 mbpd as of February 2021—it is unlikely that U.S. producers could pull off a similar feat again.*"

[The decline of oil has begun](#) (Greenpeace, by Rex Weyler 23.3.2020)

[Art Berman: Houston, We Have A Problem](#) (posted at Peak Prosperity 30.11.2019)

[Tight Oil and The Willing Suspension of Disbelief](#) (Art Berman, 22.11.2019)

[Gail Tverberg: Have We Already Passed World Peak Oil and World Peak Coal?](#) (posted on the blog Our Finite World, by Gail Tverberg, 22.2.2019)

[OPEC January Production Data](#) (posted by Ron Patterson on his blog Peak Oil Barrel 13.2.2020)

[Peak Oil... and Blindness](#) (posted on the blog Mind the Post, 9.2.2020)

[Peak Shale Will Send Oil Prices Sky High](#) (posted on Peak Oil news and message boards, by Nick Cunningham 7.2.2020)

[Government Agency Warns Global Oil Industry Is on the Brink of a Meltdown](#) (posted on Vice by Nafeez Ahmed 4.2.2020)

From the article: *"According to Dr. Hagens, this new analysis confirms that “‘peak oil’ is now really about ‘peak credit.’ If we can somehow continue to keep growing our financial claims to allow us access to future energy today, we’ll continue to be able to extract the next most costly tranche of hydrocarbons.”*

*But as debt levels are becoming dangerously unstable, this can only continue for so long; and only pushes the problem forward, making future oil decline rates steeper."*

["The Finland Report"](#) (A report on Peak Oil by the Geological Survey of Finland, by Simon Michaux (2019)

[Nafeez Ahmed: Venezuela’s collapse is a window into how the Oil Age will unravel](#) (posted on the Energy Skeptic blog 17.7.2019)

[Peak oil, 20 years later: Failed prediction or useful insight?](#), (article by Ugo Bardi in Energy Research & Social Science, february 2019)



[Brace for the next oil, food and financial crash. 80% of the world's oil has peaked, and the resulting oil crunch will slowly flatten the economy](#) (posted at INSURGENCE intelligence, 6.1.2017 by Nafeez Ahmed)

From the article: *"...just to keep production flat against increasing decline rates, the world will need to add four Saudi Arabia's worth of production by 2040. North American production, despite remaining the most promising in terms of potential, will simply not be able to fill this gap."*

*"If we assumed a decline rate of 5%pa [per year] on global post-peak supply of 74mbd — which is by no means aggressive in our view — it would imply a fall in post-peak supply of c.38mbd by 2030 and c.52mbd out to 2040. In other words, the world would need to find over four times the size of Saudi Arabia just to keep supply flat, before demand growth is taken into account."*

*"Much trumpeted improvements in drilling rates and efficiency will not make things better, because they will only accelerate production in the short term while, therefore, more rapidly depleting existing reserves. In this case, the report concludes:*

*"... the decline-delaying techniques are only masking what could be significantly higher decline rates in the future." "*

*"But even so, the paper finds that the world is experiencing:*

*"... declining average EROIs [Energy Return on Investment] for all fossil fuels; with the EROI of oil having likely halved in the short course of the first 15 years of the 21st century." "*

[Former BP geologist: peak oil is here and it will 'break economies'](#) (in The Guardian 23.12.2013 by Nafeez Ahmed)

[1] We have at least reached Peak Diesel, according to Alice Friedemann, which is what really counts.

2022-08-22

**"The worst energy crisis in modern history is here, and it is going to get a lot worse"**

*"The worst energy crisis in modern history is here, and it is going to get a lot worse"*

So writes collapsologist Michael Snyder on his blog The Economic Collapse Blog, in the post ["Their Economy Is Collapsing All Around Them As Europeans Head Into An Extremely Cold And Bitter Winter"](#)

Europe does not have enough energy to keep its houses warm next winter, says Snyder. Energy rationing will probably be introduced. Consider that we have come this far in the collapse.

*"The "tipping point" that so many of us have warned about has arrived", skriver Snyder.*

2022-08-31 (a summary of the blogpost)

## **Wise words by petroleum engineer Jean Laherrère**

"International petroleum engineer, Jean Laherrère, who worked for 37 years with France's Total oil company, [wrote](#) in 2012, "Technology cannot change the geology of the reservoir," "

(From the article "[The decline of oil has already begun](#)" at Greenpeace's homepage 22.3.2020)

2022-09-05

## **The insane price of natural gas in Europe**

*"Natural gas in Europe is seven times more expensive than it was early last year, and that is because of the war in Ukraine."*

(From [this blogpost](#) by Michael Snyder at The Economic Collapse blog)

2022-09-09

**In some sense, Peak Oil was reached already 2005. That was "peak cheap oil".**

The article "[Will peak oil save Earth's climate](#)" by Rex Weyler at [www.greenpeace.org](http://www.greenpeace.org) 14.12.2018 is an eye-opener. In it, Weyler states that Peak Oil was in some absolute sense reached already 2005

(1). It depends on how we count oil, and **if we account for net energy decline of oil**. He says:

*"Oil companies and oil producing nations will claim that peak oil is not a real phenomenon or will not occur for many decades. To support this opinion, they use deception, re-defining what we once meant by "oil." In late 2004, conventional oil production — typically from drilled wells — stopped growing and has since been on a long plateau, indicating the natural production peak.*

*Meanwhile, the alleged "increase" in oil production has been achieved with dirty, marginal, low-net energy grunge petroleum, financed with massive debt, stock scams, and outright Ponzi schemes."*

He writes about tar sands oil, which also can be applied to fracking oil, this:

*"Tar sands bitumen can be burned for energy, but it is not "oil," and adding bitumen onto "oil production" is like tacking the chaff onto the wheat harvest, a deception designed to disguise peak conventional oil and forestall the urgent transition to renewable energy."*

I have before on this blog touted that **November 2018** was the time of Peak Oil. But then I in fact give the enemy a little playroom. It may be **the latest possible date of Peak Oil**, if we count all fossil liquids, also the extremely expensive, but **for all practical purposes** the peak happened in 2005. Conventional oil has been roughly on a plateau since, a plateau which ended in the end of 2018, after which conventional oil production began to decline.

Another way to say it, is that **2005 was the peak of cheap oil**, which is the only thing that matters for the world. And maybe, I guess, 2005 was the peak year for diesel, because unconventional oil contains very little diesel. Chris Martenson has a video about peak cheap oil, [here](#). He says: *"But we need to be careful here because it's a mistake to lump all types of energy together because they have very different uses in our economy and **they are not interchangeable.**"*

In fact, the first famous article written about Peak Oil in recent times (if we do not count Marion K. Hubbert) was an article called "The

end of cheap oil" by [Colin J. Campbell](#) and [Jean H. Laherre](#) on March 1, 1998, in Scientific American, which you can read [here](#) if you pay. It was the article that sparked the Peak Oil movement, or the Peak Oil revival. **And this was all about peak cheap oil.**

This is extremely important to understand, so we can prepare for the future of extremely expensive energy.

\* \* \*

Here is some more articles about peak cheap oil:

[Peak “Cheap” Oil: Shale Oil Proves Peak Oil Is Indeed Upon Us](#) (by Casey Research posted on Peak Oil news and message boards 2.11.2013)

[Peak Oil Is All About Cheap Oil](#) (by Kevin Drum on Mother Jones 30.9.2014)

[Peak affordable oil](#) (by Matt Mushalik, on Resilience 3.2.2015)

[Peak Cheap Oil - Why you should invest in oil today](#) (on youtube by EnergyneResources 6.1.2015)

[Peak \(Cheap\) Oil](#) (by mnold on the blog jdemeta 2.6.2019)

[Peak Oil - Peak Oil Vs. Peak Cheap Oil](#) (Wikipedia oil)

(1) as a curiosum, a heavenly synchronity maybe, 2005 was the year of my own environmental awakening, awakened by the ecotheologian [Harry Månsus](#) (1941-), and the year when I made a covenant with nature, in june 2005, when I married a pine, with a wedding ceremony in the forest in the outskirts of Turku, Finland (I even bought a golden ring to myself, which I engraved with the name of the pine, Shekinah, but I lost it 2008 because of losing too much fat). 2005 was also the year I founded [the Order of the Holy Nature](#), my monastery order. My mission began by that, and I left academia for a homeless life in the forests of Stockholm, in early spring 2006.

2022-09-13

## **Conventional oil production is declining. A case for rejoicing.**

In his [Museletter #353: Deadly Optimism, Useful Pessimism](#) from July 2022, energy educator veteran and giant [Richard Heineberg](#) (b.1950) states, under the headline in the end of the document "Will civilization collapse because it's running out of oil?":

*"Indeed, conventional oil started a production plateau in 2005 and is now declining." (1)*

This is a baffling statement. It's incredible. It makes me happy. How can this fact be so ignored on the internet? I googled with the search words "conventional oil production is declining" and found nothing that explicitly stated that conventional oil production as a whole is declining. This fact has passed silently. And still it is one of the biggest facts in our time. Because it in fact means that civilization as a whole has reached its peak and is declining. I have before on this blog elaborated around the date November 2018 (see my blog category "November 2018" in the category list to the right) as the peak time for oil of all liquids, and subsequently of civilization as a whole. I also believe, but I cannot find any confirmation of this on the internet right now, that conventional oil production began to decline by then, in November 2018, after having been on a rough plateau since 2005.

Jan Lundberg, who grew up around the oil industry, said in an interview Derrick Jensen held with him, described in Jensen's book "Endgame, vol I, The problem of civilization" (2006), that *"The fact is that*

*as an oil field ages, it takes increasing amounts of energy to pump out the remaining oil. You need to subtract the energy cost from the total value of the energy extracted."*

This is also a silenced fact. But it must be true, it sounds true. Remember how more and more giant amounts of water and other stuff is pumped down into oil fields to get an "[enhanced oil recovery](#)"?

The commentator Antius below Gail Tverberg's blogpost "[Have We Already Passed World Peak Oil and World Peak Coal?](#)" posted on Peak Oil News and Message boards 22.2.2019 highlights this fact with the following words:

*"To cut a long story short; there is an energy intensity to GDP. Therefore, there is a maximum amount that society can afford to pay for the average kWh. Unfortunately, this is now beneath cost for many oil and coal producers. As inequality in consuming countries has risen; the affordability problem has grown worse. **This is why most of the world's fossil fuels will be left in the ground** (text em-boldened by me). All of the low grade coal and oil in the world will make no difference to the fate of humanity. The world economy needs cheap energy."*

I spoke about peak cheap oil being the real problem, in a recent blog-post, [here](#).

Gail Tverberg, an academic peakoiler and energy expert, said something similar in the blogpost "[How the Peak Oil story could be "close," but not quite right](#)" 30.1.2019, below the headline "[4] **Is Running Out of Oil Our Biggest Energy Problem?**":

*"Following collapse, large amounts oil, coal and natural gas are likely to be left in the ground. Some of it may even cease to be available before the 50% point of the Hubbert curve is reached. Electricity may very well collapse at the same time as fossil fuels."*

She has reiterated this many times, I remember now.

This is an incredibly big fact.

What does this really mean? It means for example, that unconventional oil production, fracking, tar sands and deep water oil production, **has to run faster and faster to avoid the collapse of the whole oil industry**, which happens if the decline of world oil production is too steep. Not to speak of getting the total world oil production to rise, which they attempt to do right now, with absolutely massive fiscal stimulus, trying to recover from the double hits of the pandemic and the Ukrainian war. They pump trillions into the economy to avoid oil industry to collapse, not to speak of all the other failing industries.

The reason is much the net energy decline that comes with aging oil fields, and which the unconventional oil industry cannot match.

**Let's pray to our Lord Jesus Christ that the oil industry won't be able to recover, that they will not be able to pump as much oil as they want, so that they cannot damage nature and climate as much as they would like to do.** But the fact is, that if they pump more now, there will be less left tomorrow. So our fate is sealed.

And no one has said this better than International petroleum engineer, Jean Laherrère, who worked for 37 years with France's Total oil company, he [wrote](#) in 2012, "Technology cannot change the geology of the reservoir."

Since 2010 I have followed the decline of the oil industry breathlessly, and I just want it to end.

The philosopher poet of [Anarchoprimitivism](#), [Derrick Jensen](#), said in [an interview on youtube](#) 3 years ago: "The Collapse of Civilization Will be Cause for Rejoicing". In another instance he said that the collapse of civilization would be his birthday.



One could cry.

This we long for even if it means our own probable demise, only because it saves what is left of nature and wildlife.

So many of us are waiting, eagerly, for Goliath to fall.

(1) Heinberg then explains what conventional oil is, thus: *"Conventional oil is essentially oil that can be extracted using traditional [drilling](#) methods and that can flow at surface temperature and pressure conditions naturally."*

2022-09-15

## **The end of abundance is here for the world, says Emmanuel Macron**

This is from the blogpost "[Money and the end of abundance. A financial crisis primer](#)" by Tim Morgan 30.8.2022 on the blog "Surplus Energy Economics":

"Amongst the world's decision-makers, French president Emmanuel Macron has come closer than anyone to spelling out the reality of the current economic situation, [saying that](#) "we are in the process of living through a tipping point or great upheaval", and referencing "*the end of abundance*" (my emphasis).

If his words are taken seriously – as they should be – a major crisis looms. The global financial system is *entirely predicated on perpetual economic growth*.

As important as what Mr. Macron has said is what he *didn't* say. He didn't say that abundance is over 'for a year or two', or that we'll have to live through this 'until better times return'. He didn't make fatuous promises of 'sunlit uplands' or 'a new golden age'.

Some of us have long known that an age of abundance made possible by low-cost energy was coming to an end. Until now, though, decision-makers have fought shy of this conclusion, taking refuge in the paradiddle of 'infinite growth on a finite planet' proffered by a deeply flawed economic orthodoxy.

What should concern us now isn't when, or whether, other leaders will arrive at this same conclusion. The trend of events is going to impose that emerging reality upon them.

Rather, we need to be prepared for what happens when *market participants* arrive at the same conclusion as Mr. Macron."

And in another place Morgan writes:

"ECoEs (energy cost of energy) have been rising over a very extended period, driven primarily by the effects of depletion on fossil fuels. Quite naturally, we have used lowest-cost resources first, leaving costlier alternatives for a 'later' *that has now arrived*. This trend is a global one, and not even energy-rich countries like Russia or Saudi Arabia are exempt from it. Those who blame the current energy crisis on "Putin's war" are victims of self-deception. The conflict in Ukraine has, *at most*, brought the end of energy abundance forward by a small number of years. Neither Saudi nor anyone else can 'rescue' us from the effects of rising ECoEs."

**My comment:** I have written much about this lately, that civilization reached its peak when Peak Oil, or rather Peak All Fossil Liquids was reached in November 2018, and has declined since. After that the pandemic and the Ukrainian war has functioned as scapegoats for bad economic times, so that we have avoided coming to the conclusion that economic growth has ended forever because of Peak Oil. Right now no big politician is interested in talking about Peak Oil as the reason for the energy crisis, they just blame Russia and the Ukrainian war. The superficial mind does things like this, it is never interested in real root causes, but just surf on the surface of things. It never digs deeper into things, never tries to see the whole picture. It loses itself in unimportant details. It's typical for politicians. It is the television culture that creates minds like this.

So, the current global energy crisis has surely to do with the Ukrainian war, but **mostly it has to do with the fact that we are past Peak Oil.**

2022-09-17

## **A good parable for Peak Oil**

*"Furthermore, China and India ("Chindia") have been consuming an increasing share of this declining volume of GNE (Global Net Exports of oil). At the 2005 to 2010 rate of increase in Chindia's combined net oil imports as a percentage of GNE, the Chindia region alone would consume 100% of GNE by the year 2030, 18 years from now."*

*"The Titanic hit the iceberg at 11:40 P.M. on the evening of April 14, 1912. At midnight, only a handful of people on the ship knew that it would sink, but that did not mean that the ship was not sinking. The Titanic's pumps helped, but they could not fully offset the flow of seawater into the ship. In my opinion, slowly rising US crude oil production is to the ongoing decline in Global and Available Net Exports as the Titanic's pumps were to the flood of incoming seawater."*

(From the article "[An update on global net oil exports: Is it midnight on the Titanic?](#)" 24.4.2012 on "Peak Oil news & and message boards")

2022-09-22

## **A simple explanation of the oil geologist Jeffrey J. Brown's "Export Land Model"**

Petroleum geologist [Jeffrey J. Brown](#) is one of the world's most famous petroleum geologists. He has developed a tool to calculate the world's and individual countries' amount of export oil that they can sell on the world oil market. The tool is called "Export Land Model". It is actually a very simple mathematical tool, easy to understand. But almost no politicians care to talk about it, which is fatal, because the amount of available export oil is actually even more important than the timing of Peak Oil. Energy expert Kurt Cobb explains the tool

excellently, in a few sentences, in the article "[Importing Nations Feel the Squeeze as Global Oil Exports Steadily Decline](#)" on OilPrice.com, 9/24/2012:

*"As Brown began to think about the export issue back in 2006, he made two observations which seem obvious once you hear them: First, if the economy of an oil-exporting country grows, that country typically will use more oil to support that growth. Second, once total production peaks and starts to decline in an oil-exporting country, exports almost always decline much faster than total production. This is because exports are typically being squeezed from two sides. Production is falling making less oil available for exports, and consumption is rising with the same effect. (Declining net exports can also occur if domestic consumption is rising faster than production which is what happened in the United States, causing the country to become a net importer for the first time way back in 1948.)"*

2022-09-23

## **Important debate between Ron Patterson and Dennis Coyne at Peak Oil Barrel**

For those interested in Peak Oil debate, the article "[May Non-OPEC Oil Production Declines Again](#)" on the blog "Peak Oil Barrel" by "Ovi" 10.9.2022 has a very interesting debate in the comments section. I am on Ron Patterson's side.

Quote from Ron Patterson in the debate: *"People, nothing could possibly be more obvious than the fact that the peak in world oil production happened four years ago. Why has the mainstream media*

*or the oil world not recognized this fact? Why do we even have doubters on this blog? This baffles me!"*

Dennis Coyne's guess is that Peak Oil will happen in the future, 2028-2029.

2022-09-23

## **Art Berman says that the oil age reached a peak already in 1977**

I wrote recently on this blog that in some sense, Peak Oil happened, not in November 2018, but in 2005. Some experts are even more radical. Far more radical. World-renowned oil geologist Art Berman wrote in the article ["Energy Shock & Transition: A Perspective from Inside the Energy Industry"](#) in September 21, 2022, on his blog, the following:

*"The larger problem is that the oil age reached a peak in about 1977 and has been declining ever since."*

The way one calculates Peak Oil depends on how one counts.

He also writes: *"Per-capita oil consumption peaked in 1978 and has been flat since 1985."*

2022-09-24

## **Russia's oil production is in decline. The three top oil producers in the world have peaked or are near their peak.**

*"In the longer term, however, assuming the western boycott is maintained and even tightened, the loss will become more notable. Even before the war, the Russian government's [own forecasts](#) expected its oil and gas production to be undermined both by depleting reserves and the effects of the technological and economic sanctions imposed by the west after the 2014 Crimea invasion. Even its most optimistic scenario predicted a short-term modest increase in oil production and then plateauing from 2024 to 2035. In the more conservative scenario, oil production was expected to decline."*

(from the article "Russia's oil is in [long-term decline – and the war has only added to the problem](#)" on the site "The Conversation" 4.7.2022)

*"Even though Russia is currently capitalizing on high revenues with the high oil and gas prices, its oil industry could be in for a terminal decline and lose 2 million bpd of production by 2030 compared to 2021, Rystad Energy [said](#) earlier this month."*

(From the article "[The Inevitable Decline Of Russia's Oil Industry](#)", By [Rystad Energy](#) - May 02, 2022 on OilPrice.com)

*"However, it really doesn't matter all that much as Russian oil production is now in sharp decline. All their new greenfield plans are either completely stopped or their progress is slowed tremendously. They had planned on these new greenfield operations to replace oil from their Ural and Western Siberia brownfields which are all in*

*serious decline. Russian oil production is headed for a serious decline. Nothing could be more obvious than that."*

(Ron Patterson in a comment below the blogpost "[OPEC Update, September 18, 2022](#)"

09/18/2022, by [D Coyne](#) on the "Peak Oil Barrel" blog)

See also the blogpost [Russian oil production update Nov 2021](#) , by Matt, 28.2.2022 on the blog Crude Oil Peak.

And see the OilPrice.com article "[Russian Oil Production Has Already Begun To Decline](#)", by [Tsvetana Paraskova](#) - Apr 01, 2022.

See also this article: "[Russian oil output will crater by 1.9 million barrels a day after fresh EU sanctions kick in, IEA says](#)" by [Phil Rosen](#) , Sep 14, 2022.

\* \* \*

*"The world relies heavily on three nations for crude: the US, Saudi Arabia and Russia. Together, they account for nearly 45% of global total oil supply."*

(From the article "[Saudi Arabia Reveals Oil Output Is Near Its Ceiling](#)", by Javier Blas , in Bloomberg, July 21, 2022)

In the same article Javier Blas states that Saudi Arabia is near its oil production peak. At most the Saudis can raise their production with 2 mbd (million barrels per day), according to the Saudi Crown prince Mohammed bin Salman.

When you consider that US oil production (all liquids) probably peaked in 2019, and has declined ever since, and that the shale oil bubble soon will burst, then we are really in an energy crisis, because of one fact, which is a little hard to find if you google for it, but



which is mentioned in a comment to the blogpost "\$60 – \$65 EMERGING MID-CYCLE PRICE FOR WTI" by Art Berman on his blog "artberman.com." 28.2.2018:

*"Recently, the HSBC oil report (from 2016) stated that 80% of conventional oil fields were declining at a rate of 5-7% per year. This means that there will be an oil shortage of ~30 million barrels per day by 2030 and ~40 million barrels per day by 2040.*

*<http://www.scribd.com/document/367688629/HSBC-Peak-Oil-Report-2017>"*

You can also find the same information on the site Resilience.com, in the article "[What's Really Driving the Global Economic Crisis is Net Energy Decline](#)", by Jonathan Rutherford, August 3, 2017

*"A recent [HSBC report](#) found that, already today, somewhere between 60–80% of conventional oil fields are in terminal decline. It estimated that by 2040 the world would need to find four Saudi Arabia's (the largest oil supplier) worth of additional oil just to maintain current rates of supply and more than double that to meet 2040 projected demand."*

Quote from the HSBC report (a bank report \*, see the Wikipedia-article of the bank [here](#)) itself: *"81% of world liquids production is already in decline (excluding future redevelopments)"*

Why do I say that we are in an energy crisis? Well, if the top producers only can raise production by 2 mbd of conventional oil until 2030, and we lose ~30 mbd of conventional oil between 2017 and 2030, then we are minus 28 mbd of conventional oil in 2030. And remember also what I have calculated regarding oil exports in [this blogpost](#). The abovementioned Bank report is about a decline of total oil production. According to oil geologist Jeffrey J. Brown and the Export Land Model, the volume of total export oil falls even more rapidly than oil production itself, and its decline rate accelerates.

*"A new report suggests that over the next 30 years, at least 80 percent of the oil industry will be wiped out."*

(Nafeez Ahmed in the article "[The End of the Oil Age Is Upon Us](#)", 28 August 2020 on RSN)

*\* written by four scientists, of which the first is Kim Fustier. She "is a Director in HSBC's Energy Research team based in London. She focuses on European integrated oil companies and energy transition issues, and has written extensively about the oil majors' decarbonisation challenges. She has covered the oil & gas sector for 15 years and has previously worked in Equity Research at several international investment banks including Credit Suisse and J.P. Morgan, and in Energy & Utilities M&A at Morgan Stanley."*

(from the following  
webpage: <https://www.energyintelligenceforum.com/2021/speaker/343115/kim-fustier>)

2022-09-24

## **Economy as if energy matters. The work of economist Tim Morgan**

Economists who are not "energy blind", i.e. who take energy questions and Peak Oil into serious consideration, and let energy questions penetrate their thinking, i.e. have a holistic sense of economics (because, in fact, as peakoilers use to say, "energy is the economy", not money and finance), are rare on this planet. I have followed many

economic blogs for a long time, but I have to this day only encountered a few. "My most beloved economist", Chris Martenson on Peak Prosperity, is one. Steve St. Angelo on SrsRocco Report is another. Tim Watkins on the blog "The consciousness of sheep" is a third. Gail Tverberg on the blog Our Finite World is a fourth. I will now mention a fifth, an often overlooked one, of which I have not spoken much about on this blog. It is **Tim Morgan** on the blog [Surplus Energy Economics The home of the SEEDS economic model – Tim Morgan](#). I have followed his blog sporadically for a long time.

Morgan is a very independent and original economist, who has developed an own economic model in his treatment of economics, the SEEDS economic model, SEEDS meaning Surplus Energy Economic Data System. In this model he calculates the **ECoE (the Energy Cost of Energy)** of the economy, which he lays as the foundation of his economic thinking.

In his last blogpost, "[Behind the crisis](#)" on his blog, from 29.9.2022, Morgan writes:

"Driven primarily by depletion, **the ECoEs of fossil fuel energy have been rising exponentially**. Since oil, gas and coal still account for more than four-fifths of total energy consumption, much the same has happened to overall trend ECoE. This has meant that aggregate prosperity has stopped growing, and *prosperity per capita has already turned down*."

End quote. Probably the ECoEs will continue to rise exponentially, so the fall of civilization will be abrupt. It is the last phase of an exponentially rising phenomena that takes us by surprise. It is really difficult to understand the exponential function. Physicist Albert Bartlett said famously: "*The greatest shortcoming of the human race is its inability to understand the exponential function*"

In 2013 Morgan published a book of 180 pages called "[Life After Growth: How the global economy really works - and why 200 years](#)"

[of growth are over](#)" which can be bought at Amazon. If you are an economist, and have money, I really encourage you to buy it. After you have read it, you will think about economics primarily in energy terms.

Here is the presentation of the book at Amazon:

*"Why, years after the banking crisis, is the global economy still mired in recession and burdened by enormous debts? Why have the tried-and-tested economic policies of the past failed us this time? In Life After Growth, leading City analyst Tim Morgan sets out a ground-breaking analysis of how the economy really works. Economists are mistaken, he argues, when they limit their interpretation of the economy to matters of money. Ultimately, the economy is an energy system, not a monetary one.*

*From this, it follows that we need to think in terms of two economies, not one - a 'real' economy of work, energy, resources, goods and services, and a parallel, 'financial' economy of money and debt. These two economies have parted company, allowing the financial economy to pile up promises that the real economy cannot meet.*

*Starting with the discovery of agriculture, Tim Morgan traces the rise of the economy in terms of work, energy and resources. The driving factor, he explains, has been cheap and abundant energy. As energy has become increasingly costly to obtain, the potential for prosperity has diminished, to the point where growth in the real economy has ceased.*

*An immediate problem is that our commitments - including debt, investments and welfare promises - cannot be honoured, which means that we can expect the financial system to be wracked by value destruction. At the same time, we need to adapt to a future in which prosperity can no longer be taken for granted."*

1.10.2022

## Why I focus so much on crude oil on this blog

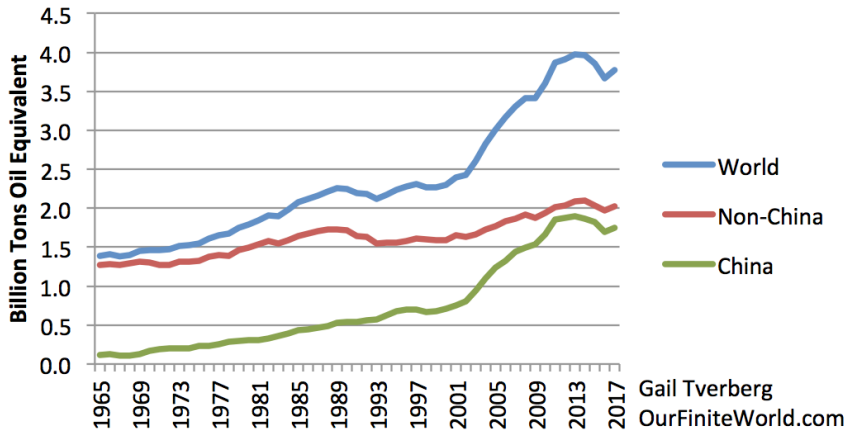
"Yes", you say, "Peak Oil was reached in November 2018, it is true, but when oil production decline, we will just ramp up coal and natural gas."

Wait. **Firstly**, coal has already peaked. "*Global coal consumption peaked in 2013, and had dropped slightly by the end of the 2010s*", Wikipedia says in [this article](#). Gail Tverberg writes in [this article](#):

*"It looks quite possible that we have reached both Peak Oil and Peak Coal, approximately simultaneously."*

Here is a picture in the same article that backs up the statement:

## World Coal Production: China, Non-China



**Secondly**, oil has a key role to play in the energy sector of the economy. If oil is scarce, it creates problem for all the other energy sources.

Steve St. Angelo says in [this youtubeinterview](#): "*Oil is what allows all the other energy sources to function.*"

**Thirdly**, right now there is a serious lack of natural gas because of the war in Ukraina. So natural gas will not come to our rescue.

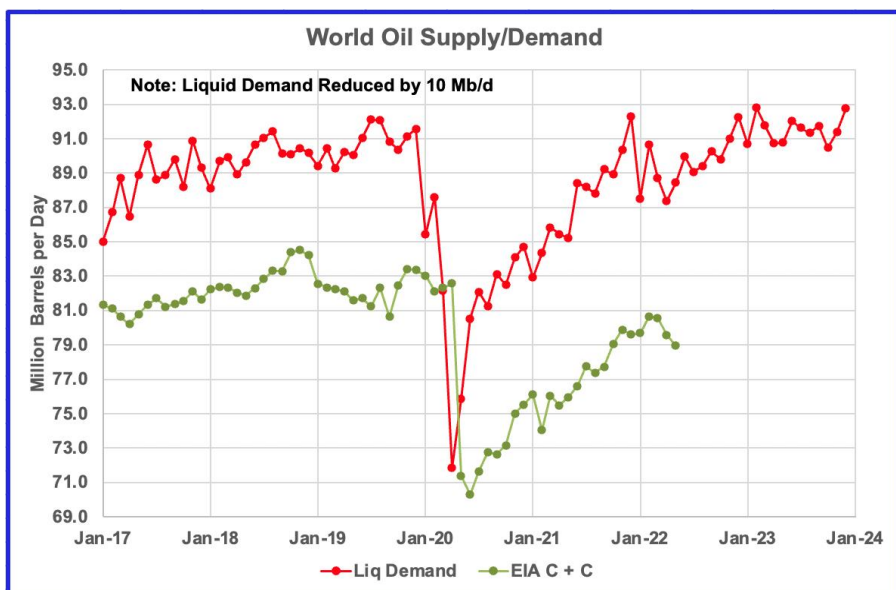
3.10.2022

## **The world probably had its post-pandemic oil production peak in January 2022**

As you who follow the oil industry should know, global oil production probably peaked in November 2018 at almost 85 million barrels per day, declined to around 82 million barrels per day until the beginning of the pandemic, and then fell radically to around 70 million barrels per day during the early months of the pandemic, because of the lack of oil demand. After that we have seen a recovery in the oil industry, to around 81 million barrels per day in January 2022, but it has not yet surpassed the peak in November 2018, instead it has declined since January 2022, to almost 79 million barrels per day in April-May 2022. See the first graph below. I lack data after that, but 5.10.2022, just a few days ago, the news were full of articles about the plans of OPEC+ to cut their production with 2 million barrels per day. See for example the article "[OPEC will cut production by 2 million barrels a day, likely sending gas and oil prices back up](#)" on [www.nbcnews.com](#) 5.10.2022. The cut will be made in November this year. This means, that (if we do not count the production decline (or rise?) after May 2022, but calculate with the numbers from there on, world oil production will be about 77 million barrels per day in November 2022. Thus, we are unlikely to surpass the post-pandemic peak of January 2022 of around 81 million barrels per day, because US oil production, from which most of the growth in oil production comes from (thanks to shale oil) has stagnated since November 2021 (see the second graph below), and the only oil production growth there takes place in the Permian Shale Basin and New Mexico, all the other oil production areas in US except for these two are in decline, as far as I know. But the Permian Basin (from which most of the growth comes) will probably soon reach its peak, just read articles like [this](#) (from Bloomberg before the pandemic began), [this](#) (from DeSmog) soon after and [this](#) (from Chron) from 2017. Many expected Permian to reach its peak in 2021. A global recession will certainly affect the production there. When the Permian Basin cannot

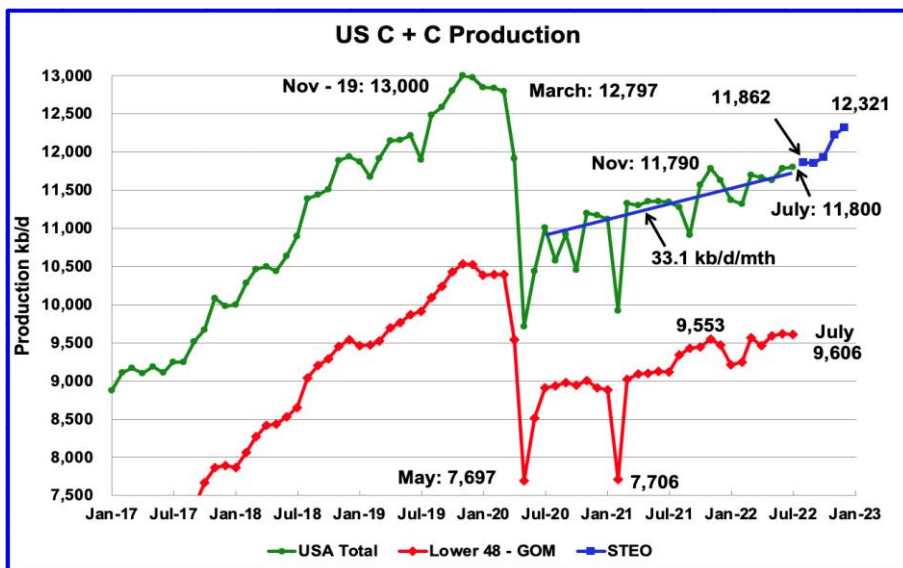
offset the decline in the rest of the US oil production fields, there will probably be, because of the [Red Queen Effect](#) (that we have to run faster and faster to stay in the same place), a relatively steep decline in US oil production, and a still steeper decline in global oil production, because the rest of the world's crude oil production is pretty much in decline, only US oil production growth keeps it afloat.

The graph below is from [this recent blogpost](#) on the blog Peak Oil Barrel:



US oil production:





8.10.2022

## **All countries should ration their remaining oil, and plan for the end of the oil age.**

[Jeffrey J. Brown](#) was the one who brought the export oil issue to the focus of many peakoilers and collapsologists ten, fifteen years ago. If you google for recent texts by him or interviews with him, you don't find much, the latest by him or about him is **only one** article on Forbes in October 2021, "[The Road To Clean Energy Is Messier Than We Thought](#)", by Loren Steffy, UH Energy Scholar (not easy to find if you google for it), and after that you find on google some comments on [www.oilprice.com](#) from the beginning of 2018, and one interview from 2017 at the Peak Prosperity blog, see [here](#). After that there is basically a deafening silence around him and from him. Why? Shouldn't he become more and more famous the closer we get to the end of the export oil market? Shouldn't all countries calculate oil exports and imports, so we can plan for the end of the oil age? So we could degrow in a controlled way, collapse in a controlled way? This silence and uninterest is for me incredible, unfathomable stupidity. I can't almost believe it's true, so strange it is.

The same one could say about the whole issue of calculating oil exports according to the [Export Land Model](#), it has just vanished from the scene, you don't find anything about it since 2017.

In fact, rationing the remaining oil, yes all the remaining fossil energy, is the single most important thing to do in the whole world just now. And Peak Oil is the single most important event in modern time, or, maybe Peak Oil Exports (which happened 2005, google "peak oil exports happened in 2005" and you only find one article about it, or, it is not even an article, it is a comment to an article) is even more important, but it is linked to Peak Oil, which also happened at the same time, if you only count conventional oil.

We are walking blind and deaf over the energy cliff. Not even the present energy crisis and the record high energy prices are able to get

us to explore oil exports according to the Export Land Model on the internet. This article does not do much, because Google's search engine does not usually find my articles. I'm not that important, obviously.

It would have been nice to know how much time we have left to live as a civilization, yes, even more as an individual. This can be best known by calculating the remaining export oil volume, if our country does not produce any oil itself, and if we produce oil ourselves, by calculating our oil reserves and the volume of probable future oil discovery.

If you are a dying cancer patient, you would like your physician to estimate how long you have left to live, so you can plan accordingly. In fact it is the duty of every physician to tell this.

And yet we do not calculate the time civilization and ourselves has left. Shouldn't we be interested in knowing this?

But I have calculated anyway, based on the little information there is out there on the internet. It is usually very old information (mostly ten years old and older), but it is possible to make a rough estimate of when civilization will collapse and oneself will starve to death. And my estimate is that around 2030-2035 (I have written about this before, in Swedish, [here](#)), when the oil export market will vanish completely, save for China and India, civilization will collapse from the fact that most countries will be without oil to import, because only 33 countries stand for 99 % of the export oil volume. So about 162 countries will be without oil to import \*, and they will drag the oil exporting countries with them down into the collapse. I build this estimate on the Export Land Model.

I have five years of playroom, because I build on so old data. If I had newer data about the present volume of export oil, I could calculate more exactly the time of the collapse of civilization.

\* even if only half of the countries in the world, i.e. 97 countries, would be without oil to import, civilization would still collapse. We are so interdependent nowadays. You should also notice that the volume of oil to import is gradually decreasing, and do not go from normal volume to zero at once. A country could collapse even when half of the import oil needed is gone. But I calculate very conservatively, with a best-case scenario in mind.

11.10.2022

## **Renewables will make our energy crisis worse**

*"We have an energy crisis, we don't have enough energy today. And yet people are saying that the answer is that we have to get away from oil and gas and invest more in renewables. It will only make this problem worse",* says Adam Rozencwajg, CFA, Managing Partner at Goehring & Rozencwajg - Natural Resource Investors in [this podcast](#) from 30.9.2022.

For more detailed information from Rozencwajg why renewables will make things worse, see the post "[The Incredible Shrinking Oil Majors - Part III](#)" from 09/ 16/ 2022 on the same homepage as the podcast above, i.e. the "[Goehring & Rozencwajg Natural Resource Investors](#)" [blog](#).

Gail Tverberg has also touted the same fact on her blog [Our Finite World](#), that renewables will make things worse (read for example [this article](#) by her), as has also Steve St. Angelo on the [SrsRocco Report](#) blog (read for example [this article](#) by him).

Why do renewables make things worse? There are many reasons, but the main reasons are that renewables usually do not replace fossil fuels, but just add to our energy mix, renewables are not truly renewable, they have a short lifespan (about fifteen years for solar panels and twenty for wind turbines) and need to be replaced, they need fossil fuels to be built and operated, they have such a bad EROEI (energy returned on energy invested) that they make us self-cannibalize, and they are intermittent, which means the wind has to blow and the sun has to shine for them to deliver energy, which means that they have to be backed up by fossil fuels, and the electrical grid cannot really operate just on renewables, the more renewables there is on the grid, the more problems it has, which has to do mainly with intermittency.

Richard Heinberg has also preached the truth that, because of the low EROEI of fossil fuels, an economy that runs on renewables has to be much, much smaller than ours today. He presents this fact in the book "[Our Renewable Future: Laying the Path for One Hundred Percent Clean Energy](#)" (2016) together with David Fridley. But you can start with reading his [museletter #272: Our renewable future](#).

This fact that the economy has to shrink radically if we want to run it on renewables, guarantees its collapse, because our economy is built on perpetual economic growth, and collapses if it does not grow (this has to do with the debt-driven bubble nature of the system).

12.10.2022

## Good recent article about Peak Oil by Richard Heinberg

Please read this: "[Oil, war and the fate of industrial societies](#)", by [Richard Heinberg](#), originally published by Resilience.org, October 13, 2022

14.10.2022

### "Most fossil fuel reserves will be left in the ground because of low prices" (Gail Tverberg)

Gail Tverberg wrote in February 3, 2021 in the article "[Where Energy Modeling Goes Wrong](#)", on the blog "Our Finite World" the following (below the headline [1] **Summary: The economy is approaching near-term collapse, not peak oil. The result is quite different.**):

*"Most fossil fuel reserves will be left in the ground because of low prices"*

**This is really an incredible, astounding fact.** The energy optimists brag so much about all the oil we have, and then comes this statement by the academic peakoiler Gail Tverberg, really a heavyweight of peak oil literature, who has a long experience in the peakoiler community. The optimists brag about the low-quality dregs of the oil industry that is left. They brag about tar sands, shale oil, heavy offshore oil, oil from thousands upon thousands of small oil fields, which in the end are, for all practical purposes, uneconomical to exploit.

They are happily unaware of Peak Oil educator Richard Heinberg's **low-hanging fruit principle**, which means that we always exploit the easiest oil first, and wait with exploiting oil more difficult to obtain. This is a principle which has always been in operation, and always will, because of economics and human greed. It is almost a natural law. It has to do with the EROEI ([Energy Return on Energy Invested](#)) if oil.

The words of Gail Tverberg are reinforced by what some climate scientists say we have to do to achieve climate targets. Just think twice about what is said in the paper "[Unextractable fossil fuels in a 1.5 °C world](#)" by [Dan Welsby](#), [James Price](#), [Steve Pye](#) & [Paul Ekins](#) in the prestigious *Nature*, volume 597, pages 230–234 (2021):

*"the majority of fossil fuel reserves must stay in the ground."*

More specifically, they write that: *"By 2050, we find that nearly 60 per cent of oil and fossil methane gas, and 90 per cent of coal must remain unextracted to keep within a 1.5 °C carbon budget."*

So we are allowed to only use 60 % of the remaining oil and gas and 90% of the remaining coal.

**That is a gigantic disaster for civilization.**

Only that will make civilization collapse. And if we don't do that, civilization will collapse anyway from extreme, runaway global warming.

But I think that when we get [ecocide laws](#) into operation (what people like my friend [Pella Thiel](#) are working with now), **it will become a crime** to exploit all the remaining fossil fuels. But I think the laws will be implemented too late. It will not prevent runaway global warming and climate disaster, which is visible already now. This

makes the end of the oil industry only more certain. It will be abolished from two different angles: 1) from the collapse of civilization from climate change and oil depletion, and 2) from ecocide laws.

We **have to** implement ecocide laws sooner or later, just to stop some of the damage done by civilization upon nature. It is never too late to stop some of the damage.

The ecocide laws in the future will make the remaining oil reserves even more uneconomical to exploit.

Some peakoilers, like Alice Friedemann and Chris Martenson, have appreciated the [shale oil](#) industry for buying us more time. I think it is foolish to thank that industry. We should not have embarked upon that project. It has caused immense damage to nature and life.

If it were not for the shale oil industry, civilization would have collapsed by 2020, and we would now live in a post-apocalyptic world. Shale oil bought us some 10 years of more economic growth. But this is only good news for those who like civilization, and do not care for nature. For nature it is good that civilization collapses, therefore the shale oil industry was a scandal.

But shale oil is a perfect example of oil that is uneconomical to exploit, save **massive** subsidies and investment money, which are burned through rapidly. When the Everything Bubble bursts, almost all shale oil production will stop, and we will lose around at least eight million barrels of oil per day over night, that is about 10 % of the global oil production volume (and this only account for US shale oil. China and several other countries also have some shale oil). **Only that is enough to collapse civilization.** Don't then forget all the old oilfields in the world which are kept alive by massive enhanced oil recovery techniques, like pumping massive amounts of water into oil reservoirs. This namely just makes the decline rate even steeper, when the decline begins in earnest.



15.10.2022

## **The failed Peak Oil predictions of Colin Campbell and Jean Laherrère**

2022-10-17

In 1998 there appeared an article in *Scientific American* titled *The End of Cheap Oil*, by two experienced oil geologists, [Colin Campbell](#) (now 91 years old and still alive) and [Jean Laherrère](#) (also 91 years old and also still alive). It was a very remarkable article, because it sparked a whole global movement, the Peak Oil Movement, in which I am a very interested and devoted participant. The conclusion of the paper in Scientific American was presented with the following words:

*"From an economic perspective, when the world runs completely out of oil is ... not directly relevant: what matters is when production begins to taper off. Beyond that point, prices will rise unless demand declines commensurately. Using several different techniques to estimate the current reserves of conventional oil and the amount still left to be discovered, we conclude that the decline will begin before 2010."*

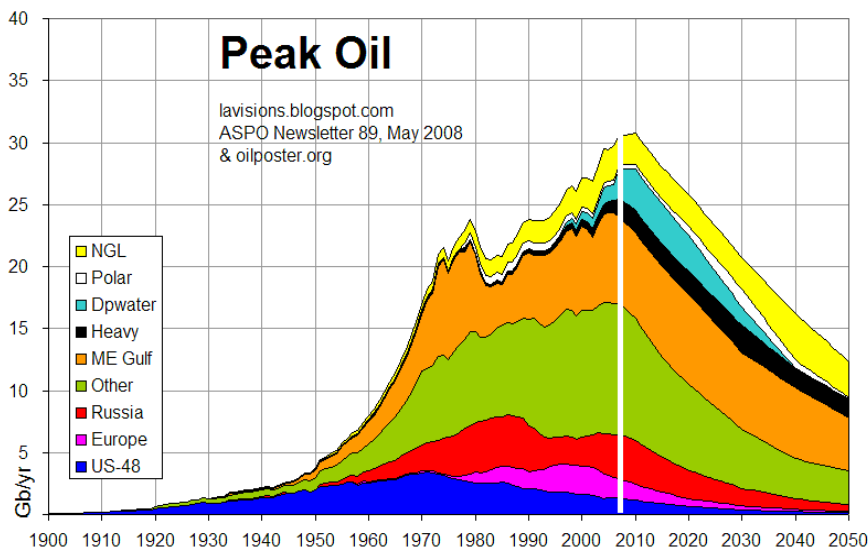
\* \* \*

The name Peak Oil was coined by Colin Campbell and our own Swedish Peak Oil professor [Kjell Aleklett](#) (b. 1945), who came almost from the next generation of Peak Oil scientists.

But the very first pioneer of the Peak Oil movement, appearing long before the movement itself started, was [Marion King Hubbert](#) (1903–1989) from USA, who was already dead and buried when the aforementioned legendary article in Scientific American appeared, and never got to see the full fruit of his work.

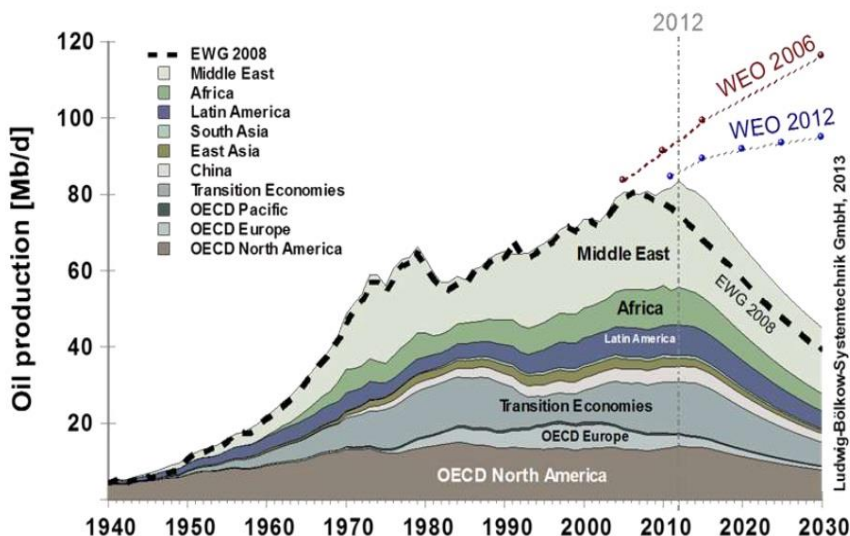
But now to the topic of this blogpost:

Please study this chart by Colin Campbell from the article "[Peak Oil introduction](#)" on the blog "La Visions" on June 1, 2008:



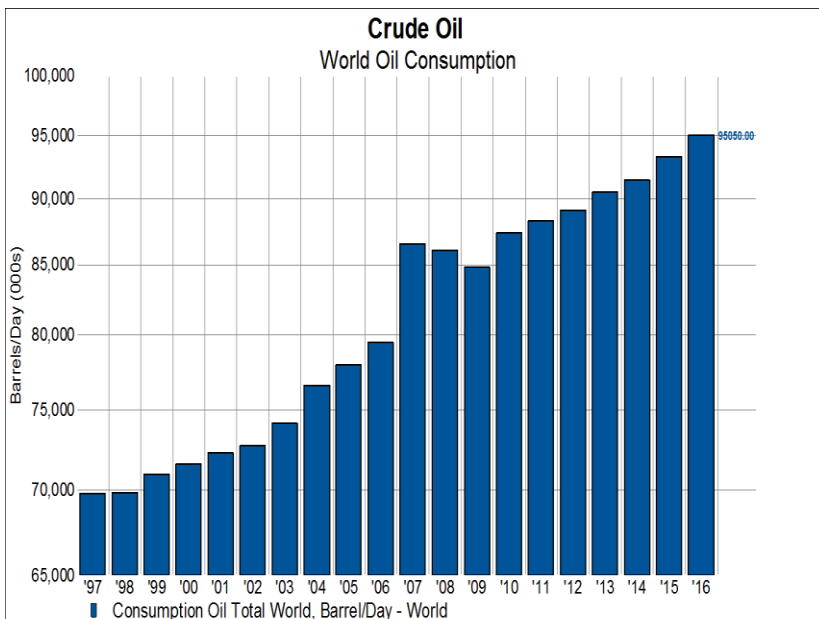
And then study this chart by Jean Laherrère from the article "[Global Peak](#)" on the blog "Crude Oil Peak" from March 2015:

Figure 24: World oil supply according to EWG scenario 2013



So according to Colin Campbell world oil production, all fossil liquids counted, should have begun to decline around 2010 at almost 31 billion barrels per year, and according to Jean Laherrère began to decline around 2012, at around 84-84 million barrels per day.

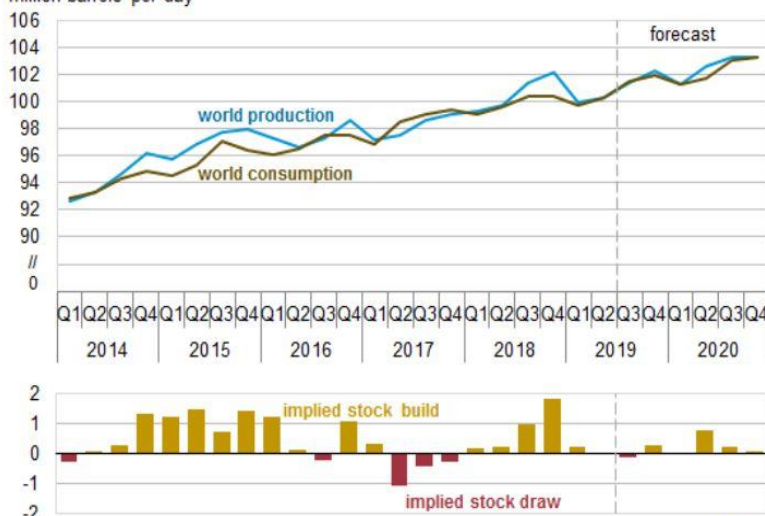
Well, study the following chart from the article [Characteristics of Capital Preservation: A Look at the American Energy Sector](#) on the blog "Value Valk" from Mar 21, 2017:



And the look at the following chart from the article "[Top 5 Indicators Shaping Upstream Oil & Gas in 2019](#)" on the website [jdsupra.com](#) from September 9, 2019:

**Figure 1. World liquid fuels production and consumption balance**

million barrels per day



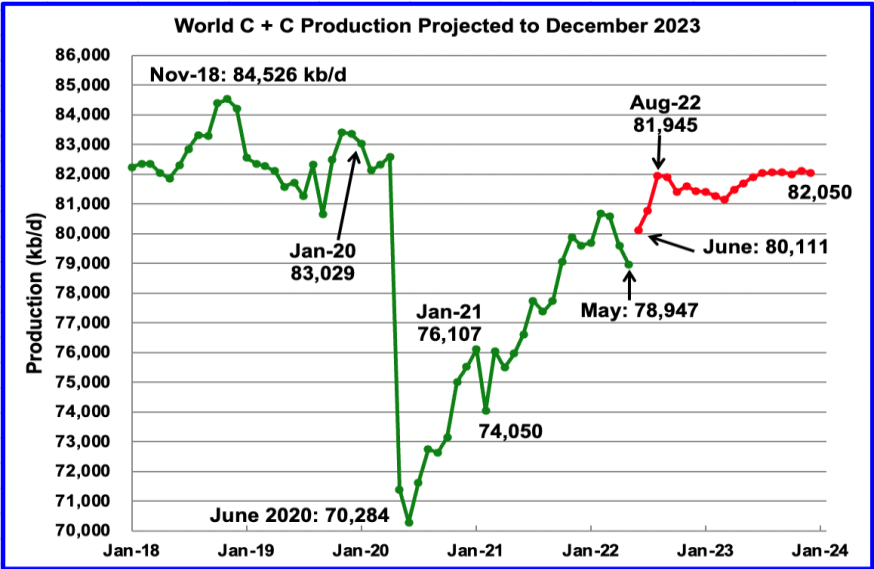
Source: U.S. Energy Information Administration, *Short-Term Energy Outlook*, August 2019



These two charts also includes all fossil liquids. I do not find (when I google for it) newer similar charts which include all fossil liquids (which is very strange and remarkable, shouldn't that kind of information be highly prioritized?), but I can add that that oil production in the world as of April 2022 fell to 98.1 million barrels per day, after having exceeded 100 million barrels per day in November 2018 (it reached about 102 million barrels per day at that time, see a chart of all fossil liquids consumption between August 2019 and August 2023 [here](#))

Then study these two charts from the blog [Peak Oil Barrel](#) (charts which do not count all fossil liquids, which is a pity, their charts are the most updated ones you find on the internet. The folks at that blog

are very bad at accounting for what oil and liquids they count in their charts. They should always add that to their charts):



So Colin Campbell missed the mark by 8 years (in 2018 the world oil production peaked, and produced then around 36 billion barrels per year), and Jean Laherrère by 6 years, in their predictions. How could they fail by so many years?

Answer: Were it not for the scandal of the [fracking oil industry](#), all fossil liquids (which I think are what Campbell and Laherrère accounted for in their charts from 2008/2013) could have peaked around 2010-2012, but Campbell and Laherrère could not imagine such a stupidity like the fracking industry, I think, it never making any money, burning through massive amounts of investment money just to keep oil industry from collapsing, civilization thus eating itself alive, cannibalizing itself. I think Campbell and Laherrère thought that's meaningless, thinking that we should prepare ourself for collapse instead, invest in collapse preparation instead, and mitigate climate change instead of throwing all our money at keeping the oil industry, a dead man walking, alive.

So Campbell and Laherrère were not as dumb as it seems, a gigantic bubble has kept the oil industry afloat, and they could not foresee it. But missing the mark by 8 and 6 years is not very bad anyway, when remembering that the oil industry is 163 years old, beginning with [the first commercial oil well](#) near Titusville, Pennsylvania.

Marion King Hubbert also missed the mark by 5 years, when he predicted that the world conventional oil production peak would arrive around the year 2000 (see article about it [here](#), which calculates that we reached the peak 2004). It was not much, considering that he made the prediction 1956. He also could not foresee the fracking disaster.

\* \* \*

On the website <http://worldometers.info> there is a [countdown machine](#) which counts how much oil we have left in our reserves, globally. They use official data, probably from IEA and BP Statistical Review, when the reality likely is that the reserves are overstated by half, so according to Ron Patterson at Peak Oil Barrel, in an article at OilPrice.com, [here](#).

## Smart statement by Goehring & Rozenchwajg about renewable energy

2022-10-18

*"In a world of abundant energy, society can energetically afford to invest in windmills and solar farms. However, when faced with an immediate energy crisis like we have today, every incremental unit of renewable energy will only make the problem worse."*

*"There is still today a widely held belief that rising energy costs will make renewable power more competitive. This naïve view neglects just how energy intensive renewable power truly is. Policy makers would be advised to understand these limitations before enacting major renewable subsidies that will only make the current energy shortage that much worse."*

(from [this blogpost](#) 10/ 14/ 2022 on the blog on the website "Goehring & Rozenchwajg. Natural resource investors")



# "Peak Oil means peak everything" (Alice Friedemann) And some comments to Friedemanns optimism about the climate.

2022-10-21

"Thank goodness for [world peak oil production in 2018](#). And peak coal in 2013. Since oil is that master resource that makes every product and activity possible, including oil itself and coal and natural gas, peak oil means peak everything. Oil, specifically the 25% of a barrel that's diesel, is used by nearly all heavy-duty trucks, locomotives, and ships. Petroleum and natural gas are the for 500,000 products. And fossils are essential for products needing high heat in their manufacture, like cement, steel, iron, glass, ceramics, microchips, bricks and more — there are no electric or hydrogen substitutes and with peak oil in 2018, no time to invent them."

(from the blogpost [Will global warming drive us extinct? A review of Peter Ward's "Under a Green Sky"](#). Posted on the blog Energy Skeptic on October 7, 2022.)

In this blogpost Alice Friedemann writes that humanity will not go extinct in the future, and this is because of Peak Oil 2018 and Peak Coal 2013, there are not enough fossil fuels in the ground for climate change to become so dangerous that we go extinct, and if we take Peak Oil and Peak Coal into our climate models, we may "*at worst reach [low-medium IPCC projections](#)*", says Friedemann.

I beg to disagree. We should not look that much on computer models, we should not trust them that much. Usually they have performed

pretty badly when they are reality checked backwards. What we should follow more eagerly, is for example what happens in the Arctic in real time, there one can follow in real time the death march of the Arctic Sea Ice. Without the Arctic Ice cap refrigerator, temperatures will skyrocket all around the planet. Friedemann does not talk about this Achilles heel of the climate. And she does not take into account the loss of Global Dimming when civilization collapses. No computer climate model, as far as I know, have taken into account Global Dimming and what effects the collapse of civilization will have on nature. The collapse will probably make us deforest most of the planet, to be able to warm ourselves when electricity fails. This has an immense effect on the climate.

But Friedemann also count on the [Arctic Methane Time Bomb](#) not being fired in the future, which is a fragile hope indeed. Maybe she is right, but when even several famous university professors with expertise in the field, fear this time bomb, people like prof. [Peter Wadhams](#) and prof. [Guy McPherson](#), then we should not put too much trust in the opposite camp being right. I am open to Friedemann's position in the debate, and **I really hope she is right**, but I do not count on it.

And at last, our sacred scriptures (especially the Bible and its Book of Revelation) prophecy about a cataclysm in the end times where the planet will die (see especially [Matt. 24:35](#): "*Heaven and earth will pass away, but my words will never pass away*") and a new transformed and purified one will emerge from the ashes ([Rev. 21:5](#): "*And he who was seated on the throne said, 'Behold, I am making all things new.'*") . This is maybe the most important piece of information to me. The Book of Revelation is, in my eyes, the most inspired writing in the whole history of literature.

# A very important update on where we are in the Peak Oil story.

2022-10-25

Look at the article "[Hot Mics & Tepid Production](#)" on the blog of the website "Goehring & Rozencwajg. Natural resource investors" on 10/20/ 2022.

## Civilization's Scylla and Charybdis

2022-10-28

Here are two similar Scylla and Charybdis-dilemmas, which both remind of Guy McPherson's often repeated "Doomed if you do, doomed if you don't". Our fate is sealed:

1)

"Similar to the two navigational hazards mythologized as sea monsters in ancient Greece—Scylla and Charybdis—which gave rise to sayings such as, “between the devil and the deep blue sea” and “between a rock and a hard place,” modern energy policy has its own Scylla and Charybdis. On the one hand is the requirement to maintain sufficient energy flows to avoid economic peril. On the other hand is the need to avert climate catastrophe resulting from such activities. Policymakers naturally want all the benefits of abundant energy with

none of the attendant climate risks. But tough choices can no longer be put off."

(From Richard Heinberg's article "[Can We Abandon Pollutive Fossil Fuels and Avoid an Energy Crisis?](#)" May 3, 2022 on the website "Independent Media Institute")

2)

"Here, I cover my thinking that the central banks are now facing a stark choice; either rescue the “markets” one more time at the expense of the massively higher inflation (and the quicker destruction of all the major fiat currencies), or they have to really let things pretty much spiral down a very deep and dark economic and financial hole. We’re at that binary outcome stage. Plan accordingly."

(From Chris Martenson's article "[Can The Central Banks Rescue This Mess One Final Time?](#)", October 25, 2022, on the Peak Prosperity blog)

# Alice Friedemann says that global natural gas production possibly peaked in 2019.

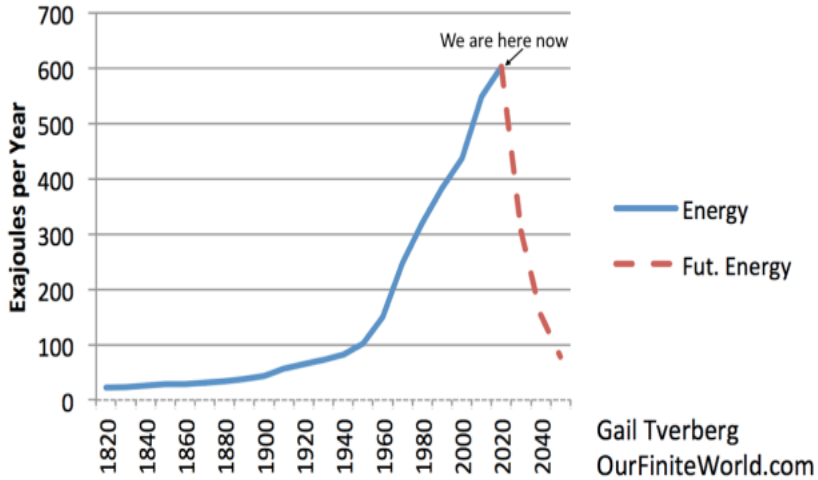
2022-11-04

*"But it looks like [world oil production of both conventional and unconventional peaked in 2018](#), coal in 2013, and possibly natural gas in 2019 (fertilizers are made with and out of natural gas that grows food keeping at least 4 billion of us alive today)."*

(from the blogpost [The nine boundaries we must not cross or we may go extinct](#). Posted on November 4, 2022 on the blog Energy Skeptic by Alice Friedemann)

**My comment:** The fact that natural gas also has peaked, is also confirmed by the chart by Gail Tverberg below, from 2021. It says that total energy consumption has peaked. That natural gas also has peaked may be the reason why natural gas is so much in focus in the European energy crisis today: that we cannot ramp up natural gas production any more, and thus the world have to somehow begin to ration the supply of it, choose who are going to get enough of it.

## World Energy Consumption to 2050



(the chart comes from the blogpost "[2021: More troubles likely](#)". Posted on January 12, 2021 by Gail Tverberg on the blog Our Finite World)

# Peak Oil update: On the current global diesel shortage

2022-11-08

Already in March 2022 Irina Slav on OilPrice.com warned that the world is facing a critical diesel shortage in the article "[The World Is Facing A Critical Diesel Shortage](#)" posted on March 15, 2022.

Well, we are in such a shortage right now. Just do a google search, and see it for yourself. I just read the article "[In Brief: Collapse ahead, How bad will it be? Fracking banned? The other energy crisis](#)" by Tim Watkins on the blog "The consciousness of sheep" posted 5.11.2022, and there the current global diesel shortage is clear to see, in the end of the article.

Some, like Tucker Carlson at Fox News even go so far (he has misunderstood the situation) as to say that [US is about to run out of diesel fuel](#). This he said 28.10.2022. That is not going to happen.

Why is this so critical? Well, it has to do with the critical importance of diesel in our society, nothing can replace it, not even electricity, because heavy things cannot be done with electric vehicles, the battery will weigh too much. All our freight and all heavy manufacturing is totally dependent on diesel. So as we descend the ladder of post Peak Oil, the shortage of diesel will be felt first.

And now to the hot spot of the issue. Ramping up shale oil production ("fracking"), which has saved the day of US economy before, will not alleviate this crisis, because shale oil contains very little diesel. See for example the article "[Low Octane: The Surprising Reason Shale Oil Makes a Poor Fuel for High-Tech Cars and](#)

[Trucks](#)", by [Sharon Kelly](#) posted on April 24, 2018 on the blog Desmog. Another important article is "Antonio Turiel: Explaining Peak Oil the Easy Way", by Alice Friedemann, posted on April 2, 2020 on the blog [energyskeptic.com](#)

## Peak Cheap Oil even in the unprofitable shale oil industry, a big Ponzi Scheme

2022-11-11

### Out of "sweet spots"

*"A few years ago, oil expert Art Berman warned that drillers in the Permian\* were running out of sweet spots (1)."*, Irina Slav wrote in the article [Running Out Of Sweet Spots: Shale Growth May Not Materialize](#) in Feb 07, 2022. And this is in [an unprofitable industry](#) which has pretty much never made any money, which has just burned through mountains of investment money. Berman's warning is like warning that a [zombie company](#) can go bankrupt, a company that in principle, practically, was bankrupt all the way already.

Richard Heinberg wrote already in 2013: *"shale gas and oil wells have proven to deplete quickly, the best fields have already been tapped, and no major new field discoveries are expected; thus with*



*average per-well productivity declining and ever-more wells (and fields) required simply to maintain production, an “exploration treadmill” limits the long-term potential of shale resources”* (From the article [“The Peak Oil Crisis: A Review of Richard Heinberg’s ‘Snake Oil’](#)”, by Tom Whipple, on Resilience.org, originally published by [Falls Church News-Press](#), August 23, 2013)

*“All shale gas plays invariably have “core” areas or “sweet spots”, where individual well production is highest and hence the economics are best. Sweet spots are targeted and drilled off early in a play’s lifecycle, leaving lesser quality rock to be drilled as the play matures (requiring higher gas prices to be economic); thus the number of wells required to offset field decline inevitably increases with time.”* (David Hughes, quoted in Ron Patterson's article [“Bakken Sweet Spots Are Petering Out”](#) in Nov 26, 2014 on OilPrice.com)

*“In every shale play I’ve looked at there are always sweet spots. Those inevitably get drilled first. So as the sweet spots are drilled off, drilling has to move into lower quality parts of the reservoir. Therefore you need an ever-escalating number of wells drilled just to offset field decline. So if the Bakken were to hit a million barrels/day of production, which it probably will, it will then likely need about 2000 wells drilled per year just to offset decline.”* (David Hughes, in the article [“A Look at the US Shale Industry with David Hughes”](#), by Post Carbon in Aug 12, 2013 on OilPrice.com)

*“Saudi Aramco’s Amin Nasser, CEO of the world’s largest oil company, says he does not spend much time worrying about booming production from U.S. shale fields.*

*One reason, says Nasser, is that shale drillers will eventually deplete the low-cost, high-quality “sweet spots” they’ve focused on throughout much of the three-year oil price downturn. American*

*energy companies have driven down the cost of producing a barrel of crude, staved off bankruptcy and prevented output declines by tapping their best oil fields first.*

*"The concentration that we are seeing today is on the sweet spot of shale, and this will not last forever," Nasser said in an exclusive interview on CNBC's "[Squawk Box](#)."*

(from the article "[The 'sweet spots' fueling the US shale oil boom 'will not last forever,' Saudi Aramco CEO says](#)" on the website Peak Oil News & Message boards in October 24, 2017)

Read also the article "[Is U.S. Shale Production Peaking?](#)", by David Messler in Nov 07, 2022 on OilPrice.com. There Messler says:

- *"U.S. shale production is peaking due to declining inventory quality and the inability of the industry to substantially increase drilling.*
- *Oil companies are beginning to consume Tier I acreage at a greater rate to slow production declines that are bending the curve down."*

In the summary, Messler says: *"We now have both analytical and documented evidence of the maturing and slow decline of shale output from diminished reservoir quality."*

If the shale oil industry didn't even make money when they had a lot of sweet spots to drill ten years ago, what then when they run out of sweet spots?

## Shale oil industry a Ponzi Scheme

In the article "[The Shale Oil Ponzi Scheme Exposed](#)" on Peal Oil News & Message boards in May 22, 2018, Steve St. Angelo writes:

*"Few Americans realize that the U.S. economy is being propped up by the Shale Oil Industry. However, the shale oil industry is nothing more than a Ponzi Scheme (2), so when it collapses, it will take down the U.S. economy with it."*

*"I think in ten years' time someone is going to write a great book and make a great movie about the shale industry in the U.S. because I think it is, quite frankly, one of the biggest Ponzi schemes known to mankind," Gavin Wendt, founding director & senior resource analyst at MineLife, told CNBC on Thursday. (from the article "[Shale oil industry a 'Ponzi scheme' or can it boom again?](#)", by Holly Ellyatt in May 26, 2016 on CNBC)*

This is also a good article: "Dan Dicker on Why Shale Oil Is a Ponzi Scheme. The business of drilling for oil from shale creates an endless circular appetite for more drilling for lesser returns", by Daniel Dicker in March 17, 2015 on "The Street".

And also this: "[U.S. SHALE OIL INDUSTRY: Catastrophic Failure Ahead](#)" by Steve St. Angelo in October 2018 on "24HGold". From the article: ***"I believe the U.S. Shale Oil Industry will suffer catastrophic failure from the impact of deflationary oil prices along with peaking production. While U.S. Shale Oil production has increased exponentially over the past decade, it will likely come down even faster."***

The rising interest rates in US can spell real trouble for the US shale oil industry, which is a very indebted industry, thus susceptible to high interest rates.

\* \* \*

I also recommend you who are peakoilers to follow Enno Peters' [Shale Oil and Gas Insights & News Blog](#).

\* The Permian oil field is the biggest oil field in the US, and is a shale oil play.

(1) Extra profitable oil wells.

(2) An investment operation that generates returns for older investors by acquiring new investors.

## Richard Heinberg on the shale oil industry ("fracking" industry)

2022-11-12

(The text fragments below are transcripts by me from [Richard Heinberg's](#)\* speech 2014 in Vancouver, British Columbia, which is on youtube titled "[Richard Heinberg on Snake Oil: How Fracking's False Promise of Plenty Imperils Our Future](#)". So the following he said already in the beginning of 2014, almost nine years ago, and the situation is much worse today. **This is also some background to the global diesel shortage we have today:**)

*\* the world's most wellknown educator on Peak Oil, who has written ten books on the subject, and fifteen books all in all.*

## **Oil industry in decline**

- "1998-2005 the oil industry spent 1,5 trillion dollars in investment in E&P, and it yielded 8,6 mb/d (million barrels per day) in added production.
- 2005-2013 the oil industry spent 4 trillion dollars in investment, and it yielded 3 mb/d in added production.
- There was at the same time 350 billion dollar spent on unconventional oil, responsible for all net production increase."

"The over 3,5 trillion dollars that the industry has invested in conventional oil production, has yielded flat to declining production. So the industry invested 3,5 trillion dollars in producing zero new net oil production from conventional sources. So it's all about unconvensionals now. The industry is turning away from investment in conventional oil, because there is not that much more to be found and produced in that category, and turning towards unconvensionals."

\* \* \*

- "costs of oil exploration/production is rising 10,9 % per year \*
- therefore spending on upstream projects is being cut back."

*\* Douglas-Westwood*

\* \* \*

"The number of US natural gas wells that are operating has increased by 90% since 1990, but the productivity of each well has declined by almost 40 %. Again, this is indication of declining returns on effort."

### **What a shale bubble looks like**

"In 2008, the city of Forth Worth, Texas, received 50 million dollars in revenues from 44 shale gas wells.

In 2012, the city received only 23 million dollars from 397 wells."

\* \* \*

"The overall production decline rate in the Bakken\* is about 40 % per year.

The industry has to produce an extra 40 % of oil every year just to stay even."

\* one of the largest shale oil plays

\* \* \*

**"The unconventional are more abundant than the conventionals"** (Heinberg speaks about the ["resource pyramid"](#), where most of the resource is in the lower half of the pyramid, where beyond a certain point it actually will cost you more to get the stuff out of the ground than the fuel will give you when you burn it.")

*\* this is some background to Gail Tverberg's statement that "Most fossil fuel reserves will be left in the ground because of low prices", which I wrote about in [this blogpost](#).*

# Shale oil has peaked, because according to Tom Lewis, the Permian shale basin has peaked. The truth about fracking.

2022-11-15

*"It appears to more and more expert observers that America's largest oilfield — the Permian Basin in the Southwest — has peaked. [U.S. drilling and fracking activity has flatlined since June](#), and the rig count in the Permian has fallen to its [lowest number in four months](#). The Energy Information Administration has [cut its forecast of next year's oil production by 21%](#). "*

*"And the truth is that [virtually no company involved in fracking since it took off in 2010 has made any money](#) — when all the accounting is done. Between 2010 and 2020, the industry as a whole lost \$300 billion dollars. The industry's leading company, Chesapeake Energy, has never reported positive cash flow and has lost roughly \$3 billion a year."*

(from the blogpost "[The Oil Bidness Just Went Code Blue](#)", by Tom Lewis, November 14, 2022 on the blog "The Daily Impact")

From the comments to the blogpost:

*Rob Rhodes*

[NOVEMBER 14, 2022 AT 1:05 PM:](#)

*"As well as all the products you mentioned the other thing required to get those wells built was near zero interest. That well too has run dry. There were profits made though; by those brokering the junk bonds."*

**My comment:** There is not much to find by google searches about the peak of the Permian. The internet is suspiciously silent about the most important things. But Tom Lewis is a serious blogger, so I trust him.

The Permian basin in Texas is the largest oil play in the US, and it is a shale oil play. It produces over 5 million barrels per day, which is about half of the total US supply of oil.

*"Other basins were also found to readily produce shale oil: the Bakken in North Dakota and the Eagle Ford in east Texas, each about 1 million bpd. But while these big shale oil plays have flat-lined since the pandemic years, the Permian has taken off. Over 20% of the world's drilling rigs are operating in the Permian – more than all other countries."* (From the article "[The King Of Shale Oil, The Permian Basin, Is Still Riding The Wave](#)", by Ian Palmer, March 30, 2022 on Forbes)

Read this again: *"Over 20% of the world's drilling rigs are operating in the Permian – more than all other countries"*. Then you understand what a massive effort the shale oil industry is, how much energy goes into this kind of oil production. **Thousands of truckloads of water, sand and chemicals has to drive in and out from one single shale oil well**, damaging the roads and costing a mountain of money. Only the amount of sand that the shale oil industry uses, is flabbergasting. Steve St. Angelo writes:

*"Each month, over 91,000 truckloads of frac sand will be delivered to the Permian shale oil wells. **However, by the end of 2018, over 1.1 million truckloads of frac sand will be used to produce the Permian's shale oil and gas.** I don't believe investors realize just how much 1.1 million truckloads represents until we compare it to the largest retailer in the United States."* (from the article "SRSrocco:



The Unbelievable Amount Of Frac Sand Consumed By The U.S. Shale Oil Industry" on Silver Doctors in June 2, 2018 )

And then the thousands upon thousands of miles of drilling. *"In the Marcellus shale, the vertical section of a well is commonly 5,000-9,000 feet deep while the horizontal section, also known as the lateral, may be several thousand to upwards of 20,000 feet long!"* (from the article "[Well Drilling Operations](#)" in the paper "Earth 109"). The miles of drilling needed grows with time.

And how many wells are needed? In 2019, at the peak of the shale oil production, before the big drop with the pandemic, I think somewhere up to 20 000 wells were drilled in the industry. See the article "[US Shale To Drill And Complete 20,000 Wells This Year](#)" (February 2, 2020, by Trent Jacobs in Journal of Petroleum Technology). 20 000 wells. And every well needs thousands of truckloads of water, sand and chemicals.

According to [Cutler J Cleveland](#), PhD, and [Pete O'Connor](#) from the Department of Earth & Environment in Boston University in the paper "[Energy Return on Investment \(EROI\) of Oil Shale](#)" posted on December 2011 on researchgate.net, *"At the wellhead" EROI is approximately 2:1 for shale oil (again, considering internal energy) and 20:1 for petroleum.* **This they said already in 2011.** It was in the beginning of the shale oil boom, which started around 2010. Then the shale oil plays were full of "[sweet spots](#)", when most of the sweet spots, the best locations, were not drilled yet. Shale oil follows, as all other oil industry operators, the "low hanging fruit principle", (see §3 in "[Richard Heinbergs museletter #291: Is the Oil Industry dying?](#)" from august 2016), which means that the best locations are drilled first, and the more costly ones are left to the future. A very simple notion.

So, if the EROEI of shale oil was 2:1 already in 2011, what is it now, [when we are running out of "sweet spots"](#)? At 2:1 50 % of the energy obtained goes into producing more oil. The EROEI of shale oil today, 15.11.2022, eleven years later, may be as low as 1,5:1 or 1:1. 1,5:1 means that 75 % of the energy obtained goes into producing more oil. 1:1 means that 100 % of energy obtained goes into producing more oil. Taking into account that the shale oil does not make any money, but burns through mountains of investment money and debt, being a massive Ponzi Scheme, this is not far-fetched.

The shale oil industry has become a self-serving industry, cannibalizing its way through the economy, dragging the whole US economy with it down over the Energy Cliff. Anyone who follows the collapse of the US economy understand what I mean. The ongoing collapse of the US economy is a direct result of the extremely low EROEI of the shale oil industry.

But Cleveland & O'Connor are right also regarding the EROEI for overall petroleum, that it was 20:1 in 2011. This number I have calculated with in my "Global net diesel export mathematics" series. The Permian basin has for a long time been the "last resort" of US oil production, one of the last big oil fields that were not in decline, offsetting the decline of the rest of the oil fields. When it peaks, the whole shale oil industry has definitely peaked. But already in July 2020 Julianne Geiger at OilPrice.com wrote:

*"Crude oil production has already peaked in the United States, according to a leading independent oil producer in the U.S. shale patch.*

*Chief executive of Parsley Energy Matt Gallagher said that the peak production that the United States hit back in March—13.1 million*

*bpd on average—represented shale's glory days, ne'er to be repeated, according to the [Financial Times](#).*" (From the article "[Shale CEO: U.S. Has Passed Peak Oil](#)")

In October 2019, Steve St- Angelo of SrsRocco Report stated that the Permian had peaked in May 2019 in the article "[More Than 50% Of The Mighty Permian's 2018 Oil Production Has Vaporized](#)". Steve St. Angelo has, on his blog SrsRocco Report, specialized in shale oil economics, and has been very detailed in his blogposts and his research. He definitively knows what he is talking about. He is also one of the most bearish peakoilers out there, not always right, but very passionate.

Read also this article: "[Peak Permian Oil Production May Arrive Much Sooner Than Expected](#)", by [Justin Mikulka](#), originally published by [DeSmog UK](#) in February 27, 2020.

Already before the pandemic Simon Casey from Bloomberg wrote the article: "[Peak Permian oil output is closer than you think, investor says](#)" (Jan. 15, 2020), where he predicted a peak in the Permian in 2020.

According to the recent article "[Oil Crisis Could Worsen With XOM and CVX's Reduced Shale Outputs](#)" in November 09, 2022, by Sirisha Bhogaraju on Nasdaq, the Permian is still growing, but the growth is slowing down, which by itself poses a threat to the oil industry. The same information can be found in the article "[U.S. Permian Oil Output to Hit Record in December, But Gains are Slow](#)" by Anil Mathews today, November 15, 2022.

I don't know whom I should believe, Tom Lewis or Sirisha Bhogaraju and Anil Mathews, because I'm not an insider. But even a slower

growing Permian is a risk factor, **because of the Red Queen syndrome**:

*“In order to keep production up, the number of wells will have to continue increasing at a faster rate than previously. This is referred to as “the Red Queen syndrome” which alludes to the character in Alice in Wonderland who famously declared that she had to run faster and faster just to stay where she is.”* (James Howard Kunstler, quoted in the article ["The Red Queen Syndrome"](#) in November 26, 2012, by Richard Mills, on Financial Sense)

In our case, the Permian, which is one of the few oil plays in the US which are growing their production currently, has to continue increasing its production at a faster rate than previously, just to offset the decline of the rest of the US oil industry. This is especially acute in the shale oil industry, which has such a steep natural decline rate, 40 % a year on average, while the conventional oil industry has a figure of around 10% natural decline rate, i.e. the rate at which oil fields decline without more discovery and drilling.

# Alice Friedemann on the future of oil

2022-11-17

*"I think overall we could be down to half of our oil that we produce today by 2035."*

(From Derrick Jensen's interview with Alice Friedemann (she is the one who operates the blog "[Energy Skeptic](#)") one year ago, titled "[Alice Friedemann—Life After Fossil Fuels book—Derrick Jensen Resistance Radio 2021-09-05](#)")

**My comment:** This is pretty realistic, I think, thinking on [my recent blogpost series about the end of the global net oil exports](#).

# Colin Campbell, the father of the Peak Oil-movement, died recently

2022-11-17

The petroleum geologist Colin Campbell (1931-2022), the father of the Peak Oil-movement, is dead. An obituary by Richard Heinberg can be read on [Resilience.org](#):

["Colin Campbell Remembrance"](#), by Richard Heinberg, in November 16, 2022.

Campbell was 91 years old when he died, after a long illness. I'm very indebted to him and thankful for his life and work. He advocated

petroleum rationing, just as I do, so that the resource could be preserved for future generations. The world didn't follow his advice, unfortunately. One day we have to ration petroleum, oil depletion will force us to do that. But it is very late in the game.

*"He (Campbell) didn't expect a miraculous transition away from fossil fuels toward alternative energy sources. Instead, he believed we would endure a painful but instructive return to a lower-energy way of life."*

(Heinberg in the aforementioned article)

Ugo Bardi also wrote an obituary. It is on his blog, in a blogpost titled "[Colin Campbell \(1931-2022\). A tribute to the father of the "Peak Oil" concept](#)", 17.11.2022.

## We won't have a green transition, and here's why:

2022-11-22

(From [this post](#) at Reddit/Collapse:)

"In this great video by *Peak Prosperity* Simon Michaux -- who is an associate professor of geometallurgy and an expert in the mining industry -- calculates the raw materials we would need for the "green transition" and how long it would take to mine the required amount. His numbers are based on the production rates of 2019. Copper for

example would take us 189 years. Nickel 400 years. Lithium a staggering 9920 years. Cobalt 1733 years. Vanadium 7101 years. And Germanium an insane 29113 years. Even if you think his numbers are off, and even if you think we'll mine and produce a lot more than we did in 2019, you have to admit that this "green transition" project is nothing more than a delusional fantasy. I almost never see this mentioned anywhere. Liberals just assume we'll transition and conservatives insist climate change is a hoax. Thoughts?

Video:

<https://youtu.be/O3wE63QQrtg>

By the way, these numbers are for one generation of renewable tech units!

Here's the source video: <https://youtu.be/MBVmnKuBocc>"

## Bloomberg warns of global diesel shortage

2022-11-24

**"Within months, almost every region on the planet will face a danger of a diesel shortage just as supply crunches in nearly all the world's markets have worsened inflation and hurt growth,"** News outlet Bloomberg warned 22.11.2022 in this article: ["World's Most-Crucial Fuel Heads for Shortage Touching Everything. Prices for diesel — used to power trucks, fuel machinery](#)

and heat homes — have surged about 50% amid shrinking inventories and a strained export market."

Tyler Durden at Zero Hedge wrote today about the article, [here](#). From the article by Durden: *"A perfect storm in global diesel markets is unfolding. Refining capacities are tight, and stockpiles are being depleted as the Northern Hemisphere cold season begins. Supply crunches could jeopardize critical transportation networks since the industrial fuel powers ships, trucks, and trains. The fuel is also used for heating homes and businesses, as well as a power generation source for utilities."*

*"Global export markets are so tight right now that emerging market countries are being squeezed out of purchasing industrial fuel, such as Pakistan.*

***"It's certainly the biggest diesel crisis that I have ever seen," Dario Scaffardi, a former chief executive officer of the Italian oil refiner Saras SpA who spent four decades in the industry, told Bloomberg."***

## Something isn't right with the narrative about Iraqi oil production. Has Iraqi oil peaked?

2022-12-07

Soon it's twenty years since the US [invasion of Iraq](#) began (march 2023). The invasion was because of oil, because of energy security questions, according to energy expert Nafeez Ahmed in [this article](#) in



The Guardian. Not because of dangerous weapons. I agree. Why? Let me explain. Iraq is so central for oil because it has maybe the most underdeveloped resources in the world (it contains around 145 billion barrels, or 9% of world's oil reserves, conservatively estimated), so the story goes. It currently produces about 4,7 million barrels per day (mbd), and has been on a plateau (if we exclude a big pandemic downturn and then a recovery to pre-pandemic levels) since 2016 (see the chart [here](#)).

Simon Watkins writes in his article "[Are Iraq's Ambitious Oil Production Goals Feasible?](#)" posted on Aug 16, 2022 on OilPrice.com, the following:

*"In contrast to actual oil production figures, in 2013 Iraq launched its 'Integrated National Energy Strategy' (INES), which formulated the three forward oil production profiles for Iraq, as analyzed in depth in [my latest book on the global oil markets](#). The INES' best-case scenario was for crude oil production capacity to increase to 13 million bpd (at that point by 2017), peaking at around that level until 2023, and finally gradually declining to around 10 million bpd over a long period thereafter."*

Well, now we are soon in 2023, and Iraqi oil production is still at 4,7 mbd, just below the peak in 2016-2017. It is not even at the worst-case INES scenario, 6 million bpd by 2020. What has happened? The US invaded Iraq in 2003 in order to delay global oil production peak, but they didn't succeed. It came two years later, in 2005, anyway. They had succeeded if they had met their production goals. They have succeeded partly, because they have managed to increase Iraqi oil production from 3 mbd to 4,7 mbd during US occupation of Iraq (see [this chart](#)), but why did Iraqi oil production plateau from 2016 onwards? Has Iraq reached national peak oil?

There are a lot of mysteries in the oil industry, and a lot of guess work (so many state secrets here!), but I know too little of details here to be able to answer that question. It just seems very odd to me that despite the almost twenty years of occupation, US has not managed to build the [Common Seawater Supply Project \(CSSP\)](#) (which Simon Watkins also talks about in his article above) which is completely central in order to enhance oil recovery in Iraq, and meet the dreamed of production goals. Watkins says it is because of corruption that the system cannot be built, but it costs only 10 billion, and the US has throwned trillions of dollars on extremely expensive shale oil in their own country since 2010. It is said that Iraqi conventional oil is some of the cheapest oil in the world to get up (all Middle East conventional oil is still pretty cheap, in comparison with shale oil), so why do US not pick the low hanging fruit first? In the end, the oil industry depends financially on picking the low hanging fruit first. US has had almost 20 years of rule in Iraq to do so. Something isn't quite right with the narrative that there is all the time a great bonanza of oil in Iraq to be sucked up. I'm really an amateur energy analyst, but I cannot believe the official narrative here. **Iraqi oil must have peaked**, pretty much, just as I believe Saudi Arabia has. And when Iraqi oil peaks, and shale oil peaks, then the downturn of global oil production production is fast, because there goes our last hopes. Only with a peaked national oil industry you are reluctant to enhance the oil recovery in your fields, knowing that it will decline only so much faster if you do that, and you're probably trying to save some oil to your descendants, too.

# The Shale Oil boom is over, the Shale Oil industry is running out of sweet spots

2022-12-13

(The following is excerpts from Irina Slav's recent, very important article "[Five Reasons Why U.S. Shale Production Won't Soar In 2023](#)" on Dec 12, 2022 on OilPrice.com)

- "Workforce constraints and rising costs continue to plague U.S. drillers.
- Shale drillers in two of the largest shale formations in the country are running out of [sweet spots](#) to drill."

"Yet investor pressure on the companies to boost shareholder payouts at the expense of investment in new production is only part of a story that confirms recent analyses suggesting the U.S. shale oil boom is over, and there is no coming back.

For the last two years, the shale oil industry, like the broader oil and gas industry, suffered the consequences of pandemic restrictions like other industries and had to curb production massively. And the industry is still dealing with some remnants of the fallout from the lockdowns, such as workforce and raw material shortages.

Yet these problems seem to be on the way out, and production is recovering from the low of 9.7 million bpd it reached in May 2020. Yet it has not reached pre-pandemic highs, and it is unlikely it ever will. Because in addition to some lingering effects of the pandemic, there are such things as natural depletion, government policies, and, indeed, investor pressure."

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"In a recent [analysis](#) of the state of the U.S. shale oil industry, resource investors Goehring and Rozenchwajg highlighted these three factors as drivers of the transformation of the industry from its pre-pandemic boom to today's significantly more measured pace of both production and investment in future supply.

Natural depletion is not something that gets talked about very often when it comes to U.S. shale. In fact, most reports about the industry like to note the resource wealth of the U.S. shale plays, especially the Permian, but fail to add that these plays have been exploited for quite some time now, and in some of them, drilling is not as lucrative as it used to be.

In fact, Goehring and Rozenchwajg note that drillers in the Eagle Ford and Bakken formations have largely run out of profitable drilling spots and production in these two plays is likely to plateau soon and start declining."

**My comment:** For confirmation, read the article "[The U.S. Shale Boom Is Officially Over](#)", by Tsvetana Paraskova, on Nov 24, 2022 on Oilprice.com.

And then, in order to get a perspective, read the following articles:

["The Shale Oil Bubble Accounted For 99% Of US Oil Production Growth Since 2007"](#), on February 11, 2020 by Steve St. Angelo on "Peak Oil News & Message Boards".

And:

"The U.S. Accounted For 98% Of Global Oil Production Growth In 2018", by Robert Rapier on June 23, 2019 on "Peak Oil News & Message Boards".

Kurt Cobb writes in the article "[Can Global Oil Production Climb If The U.S. Shale Boom Is Over?](#)"

on Jan 01, 2023, on the blog Resource Insights, the following:

*"But no other source seems set to provide the kind of growth U.S. shale oil provided, that is, 73.2 percent of the global increase in oil production from 2008 through 2018."*

Observe that 2018 was the year when All Fossil Liquids peaked. Most of the post 2005 oil growth has come from US.

In the article "[Running Out Of Sweet Spots: Shale Growth May Not Materialize](#)" on Feb 07, 2022 on OilPrice.com, Irina Slav wrote: "A few years ago, oil expert Art Berman warned that drillers in the Permian were running out of sweet spots."

The recent article "[Europe Can't Count On U.S. Shale To Make Up For Russian Crude](#)", by Irina Slav on Dec 05, 2022 on OilPrice.com also says the same. This should be front news in all newspapers, but it isn't. Peak Oil is hardly mentioned in ordinary media.

Note that even though the shale oil industry has sucked up the oil from their sweet spots first, **not even then** they made any money, instead they lost a lot of money. If you don't believe me, read the article "[U.S. Shale Has Lost \\$300 Billion In 15 Years](#)", by Nick Cunningham on Jun 23, 2020 on OilPrice.com. Steve St.Angelo has written a lot about the lousy finances of Shale Oil on SrsRocco Report, and can confirm it. If it is so, what then when the sweet spots

are all drilled, and the Shale Oil Industry has to go to poorer and poorer places to drill? I would say that the fall will be fast.

Shale Oil is about our last earthly hope. When it fails, civilization will fail. We have now to put our hopes in the Spirit World. I encourage you to do that, suspending all earthly hopes about worldly luck.

## Interesting blogpost by Steve St. Angelo about the Shale Oil industry

2022-12-14

*"U.S. SHALE OIL FIELDS BECOMING EXHAUSTED: Forensic Analysis Shows New Production Isn't Offsetting The Large Declines*

*Thus, 2023 will likely be the Year the wheels begin to fall off the Mighty U.S. Shale Oil Industry."*

(from [this Twitter post](#) by Steve St. Angelo)

# An important article about Peak Oil

2022-12-20

"[The Era Of Cheap Oil Has Come To An End](#)" by Irina Slav - Dec 18, 2022 - on OilPrice.com.

*"Global oil inventory is at the lowest level since 2004, the Department of Energy has released 200 million barrels of oil from the Strategic Petroleum Reserve this year, OPEC continues to struggle to produce at their stated quota and US producers are helping but can only do so much."*

*"Then there is the issue of prime acreage, which several experts have been warning is running out. TortoiseEcoFin's Sallee is among them: "Best acreage has been drilled, the industry is struggling to attract labor and has limited sources of financing," he told Oilprice."*

(from the article)

**My comment:** The folks at OilPrice.com are no doomsdayprophets, they are very careful and usually factful, sticking to facts only, not making any bold predictions. Therefore this article is very important. If even the folks at OilPrice.com say that Peak Oil is here, it has to be here.

# We have to safely bury our nuclear waste while we still have the fossil fuels to do it

2022-12-22

*"One the greatest tragedies of energy decline will be the nuclear waste left to harm thousands of future generation for hundreds of thousands of years. We owe it to them to clean up our mess while we still have the fossil fuels to do it. If we do nothing, 263,000 tons of nuclear waste will poison the world. Both of my books explain why transportation and manufacturing can't run on electricity, so let's hope new nuclear plants are not built to cope with the energy crisis. The waste from existing plants is bad enough."*

(Alice Friedemann in [this recent blogpost](#))

Please, politicians, take action.



# About the prophetic year 2048, Israel, the Dead Sea Scrolls, our oil reserves and the establishment of the Millennial Kingdom.

2023-01-21

In [this Swedish blogpost](#) I told about a dream I had 2.5.2022 when a mighty angel (it scared me!) said to me "2048 skall du få flytta till en sommardal". (in English: "In 2048 you will be allowed to move to a summer valley"). This was all he/she (I did not see the angel) said, then he/she vanished.

I then wondered if Jesus will return in 2048. He might return before, probably he does, but at least then at the latest the Millennial Kingdom will begin, I think, and my summer valley will probably be my paradise, my place of rest and my salary in that Kingdom.

But, when I google at "second coming 2048" I do not find anything of value. This date is unique to me and the angel in my dream. I had not heard anything about it before my dream, so it didn't come from me, or from my previous fantasy life.

## Israel and 2048

Israel's declaration of independence was [on May 14, 1948](#). Some Bible scholars say that [Matt. 24:32-34](#) actually talks about Israel: "*Now learn this lesson from the fig tree: As soon as its branches become tender and sprout leaves, you know that summer is near. So also, when you see all these things, you will know that He is near,*

*right at the door. Truly I tell you, this generation will not pass away until all these things have happened."* And they say that "this generation" is the generation that comes after Israel is reborn as a state, i.e. in 1948. So those who are born then and after that, will not die before Jesus returns.

Well, we know that a human being lives at most about 100 years or so. This means that Jesus will return 2048 or sooner. 2048 is maybe the latest possible date for his return and the start of the Millennial Kingdom. In 2048 I'm 64 years old. I hope I will be transformed by then or before then, not having to die. It's my blessed hope.

## **The Dead Sea Scrolls and 2048**

[The Dead Sea Scrolls](#), in my opinion the most important archeological discovery in all of human history (from a Christian perspective) were discovered during eleven years, 1946-1957. The peak of the discoveries was in 1947, and the find was announced in 1948: *"The fragile documents, which came to be known as the Dead Sea Scrolls, eventually made their way to scholars at the American Schools of Oriental Research, who announced the find in 1948."* (from [this article](#)). So, in 1948, exactly the year when Israel was founded, and 100 years before the prophetic year 2048, the world got to know about this discovery.

## **The stock market crash of 1929 and 2048**

In autumn 1929 [history's greatest stock market crash](#) occurred, and the Great Depression followed afterwards. It is almost 120 years between this event and 2048. 120 years is prophetic in the Bible, see [this blogpost](#) of mine.

## Our oil reserves and 2048

(this is an elaboration of [this Swedish blogpost](#) in 2019 by me)

We can calculate how long civilization will last by looking at our oil reserves.

*"In its latest [Statistical Review of World Energy](#), BP estimated the world had 1.7297 trillion barrels of crude oil remaining at the end of 2018. That was up from 1.7275 trillion barrels a year earlier and 1.4938 trillion barrels in 2008. In 1998, the world had 1.1412 trillion barrels in remaining reserves." (from [this article](#))*

There are some tricky things here. Something isn't as it seems. How could our oil reserves grow, if we seriously consider the following facts:

*"Every year since 1984 oil consumption has exceeded oil discovery." (from a comment to [this article](#))*

And for expert confirmation:

*"...already in 1998, Campbell and Laherrère had noted suspiciously sharp increases in the reserves reported by some OPEC producing states [1]. In addition, they noted that new oil discoveries had not been matching production starting in the late 1980s, a phenomenon termed "the growing gap" and illustrated several times in the ASPO newsletter. This gap was considered as evidence that oil production was depleting the reserves faster than they could be replaced." (from [this article](#) by Ugo Bardi)*

[This article](#) 2016 by Peak Oil-blogger and oil industry insider Ron Patterson really clarifies the situation.

*“the standard claim that the world has proved conventional oil reserves of nearly 1.7 trillion barrels is overstated by about 875 billion barrels.”*

*That puts conventional reserves at about 825 billion barrels.”* (from the same article)

Maybe Patterson is wrong about the 825 billion barrels figure. Maybe he is too radical (it really seems very radical). But if we consider that *"In 1998, the world had 1.1412 trillion barrels in remaining reserves"*, then, because the oil industry has steadily eaten from its reserves since then, more and more hungrily, like a starving fat man eating of his own fat, global oil reserves cannot be very much greater than 1 trillion barrels, especially if we do not count the staggering amount of shale oil reserves and tar sand reserves, which are very expensive to produce, and increasingly more so as time goes by.

Let's take that 1 trillion barrels (1000 billion barrels) number, and make a calculation. We consume about 36 billion barrels of oil each year by now (we are almost at the 2018 peak levels of consumption right now). 1000 divided by 36 is 27,7. So we have almost 28 years left of oil reserves with the present consumption, and we have to consume as much as today to keep civilization afloat, **or actually we have to increase our consumption to avoid collapse**, because the financial system is rigged so that it either grows or collapses. 27,7 years into the future is around the year 2050. From 2023 to 2048 there is about 25 years. This is remarkable. This makes 2048-2050 about **the latest possible date** for Babylon's fall and the Second Coming of Jesus. All Christian prophets should mark this. Of course civilization will fall way before it sucks up the latest drop of oil from the ground, because of dwindling [EROEI](#) and the fact that we need our present oil consumption to avoid collapse. Gail Tverberg has written somewhere that most of the coal, oil and in the ground will be

left there because it becoming uneconomical to produce. Then you understand why I say that 2048 is the latest possible date for the end of civilization. Add to this abrupt climate change, ecological overshoot and the bursting of the financial "Everything Bubble".

So easy it is to calculate the end of civilization, or putting the latest possible date for it (it's exact timing is very much more difficult. I wonder if it is possible to refute my calculations here. Please let me know if I'm wrong about this.

## **The beginning of the Millennial Kingdom**

I have elsewhere on this blog (see [here](#) and [here](#)) speculated about 2025 as the possible date for the Rapture of the Christian Church, and 2032 as the time for the visible Second Coming of Christ. As the Christian prophet Josh Peck says, we cannot know the exact date for the beginning of the Millennial Kingdom, it may take time to set it up, its establishment on earth may take a long period. According to [the Essene calendar](#) (see who the Essenes were, [here](#)), this period is the latest [Jubilee](#) of the Age of Grace (starting with the time of Jesus), i.e. 2025-2075. This is why I guess that the Millennial Kingdom will come to earth during the period 2032-2048, maybe in stages. Maybe we will not all be transformed at once, maybe one here and one there, each in their turn. And I think that my dream with the angel message 2.5.2022 indicates that **my** Millennial Kingdom, my eternal rest, will begin 2048. Maybe not that of others. Until that I have to remain in civilization, until that I have to work hard. I know what my work is: an author's work.

# Something on "the green transition" and its impossibility.

2023-02-07

(elaboration of [this English blog post](#) by me)

Dear environmental activist and green transitioner. It is with sadness and sorrow and compassion that I say this to you now. I don't want to be cynical. But I don't think any large-scale green transition will be possible. What is currently so popular. Which finally had a breakthrough.

The reason is simple. We don't have enough metals/minerals to make it work. The main source of this claim that I have is the Finnish professor of [geometallurgy](#), mr. [Simon Michaux](#), having the right scientific training and professorial expertise on the subject. Here are some articles among many which refer to Michaux' research:

[Is There Enough Metal to Replace Oil?](#), by Robert Hunziker on Counterpunch, on 23 August, 2022

[The Green revolution is impossible](#), by John Hinderaker, on the blog PowerLine, on 6 September 2022.

In the latter article we read: *"Note that 189 years worth of copper production, 400 years of nickel production, 9,921 years of lithium production, 1,733 years of cobalt production, 29,113 years of germanium production, and so on, would be needed for the first 20 years of wind and solar installations."*

So, you read correctly; regarding lithium, which is considered by many to be the most important key in the green transition, in renewable energy technology and electric cars, **we need almost 10,000 years of lithium production to supply a single generation of 20 years of solar panels and wind turbines, with this metal.** So this is **only for one single generation.** What do hundreds of years of high-tech civilization need? Many want our civilization to survive for hundreds of years, at least? And note that this only applies to solar power and wind power. What about all the other things we need, the transition to electric cars, electric trucks, electric airplanes and the rest?

The strange thing is that these facts completely escape the planners of our society. People like Klaus Schwab and the World Economic Forum. All with techno-grandiose plans. Just think about it, they don't sit down and count on these things. They don't even seem to ask the questions about this. This is completely beyond my understanding. That you can be so deaf and blind to reality, to the simplest mathematical facts. For me, it's not difficult to understand, with my secondary school math knowledge (the same applies to the issue of oil exports, they don't count on that either, I managed to do it in [this book](#), with secondary school math).

I'm just saying: **math has never been more important.** Having a fingertip feeling for math. Nevertheless, it appears like our politicians seem like they never went through either secondary school math, high school math or university math.

Again, I feel like saying that I hope some Swedish politician reads this and does something about the mathematical illiteracy in this area. We need public education, friends.

But if you don't want to see a thing, you won't see it either. You don't google it. You put the blinders on. You organize the whole of political life and the whole of society so that such information should not reach your ears. Because you are obsessed with your progress, with your techno-grandiosity.

Yes. There will be no green transition. It is perhaps sad for all environmentalists. For Greenpeace. But for me it's not sad. Because I don't want this bulldozer of a civilization to live forever, and destroy the earth even more, just that we run it on renewables, not oil. It's like running a logging machine on renewables, instead of oil. The forest is cut down in any case. Wishing civilization to last forever is as stupid as wishing hell to last forever, as the Christian fundamentalists do.

Therefore, my sympathy goes only to your crushed hopes, not to the defeat of your techno-grandiosity.

But. The Christ hope is left. It is soon the only thing left to put one's hope in.



# 40 % of all US oil is not derived from oil

2023-02-08

Famous oil geologist and peakoiler Arthur Berman (he is one of the most serious and educated peakoilers out there) says in this youtubeinterview, [Arthur Berman: "Peak Oil - The Hedonic Adjustment" | The Great Simplification #54](#) (18.1.2023), that 40 % of all US oil is not derived from oil. 40.51 minutes into the video Art shows a chart where he says that one third of world "oil" consumption is not oil.

What is it then? Well, a mixture of natural gas liquids (NGL), biofuels, refinery gains and the like. They all contain very little diesel, therefore this is really serious stuff. Diesel is the motor, the very life blood of the global economy.

Bear in mind that of the remaining US oil, 7 million barrels per day (mbd) of its 12,3 mbd is tight oil, shale oil, fracking oil. It makes almost 57 % of all US "oil". Tight oil also contain much less diesel than conventional oil, it has to be blended with heavy oil to become useful in the refineries \*.

These insights by Art Berman is in full accordance with the numbers that I calculated with in my book ["The end of global net oil exports. What really matters in the Peak Oil debate"](#) (2022).

"Petrol just isn't what it used to be", economist and peakoiler Tim Watkins says in the following text on his blog:

*"Since the 2008 crash, we've all had to get used to "shrinkflation" – where, at least until recently, manufacturers kept prices down by*

*shrinking the content. A 150 gram bar of chocolate, for example, would become a 125 gram bar but would sell at the same price. Okay, that's easy enough to understand when it comes to packaged food or cleaning products, but how is it possible to have shrinkflation at a petrol station? After all, we continue to buy petrol by the litre... and a litre of petrol is a litre of petrol, right? Wrong! Petrol just isn't what it used to be. Indeed, in Britain since September 2021, a litre of petrol has five percent less petrol in it."* (Tim Watkins: "[Shrinkflation at the pumps is just depressing](#)", on the blog "The Consciousness of sheep", 22.1.2023)

What Art and Tim are saying, and the fact that almost only they say it, shows how desperate the world leaders are to hide the beginning collapse of industrial civilization.

This is called "[Stealth Peak Oil](#)". See also [this article](#) by Art Berman on his homepage, January 18, 2023.

It could have been otherwise, if we had politicians who were less interested in power and fame, and would risk their reputation in order to warn people, in order to make the collapse of civilization more smooth, not so steep and cruel. Without being worried of being called "alarmists" or "doomsday prophets".

But the whole thing is a little like a proud fat man, whose food is running out, who begins to starve, and pretends everything is fine, until his body has eaten up all his fat, and he is forced to confess that he has run out of food, because he is dying.

We are eating of our fat now, as a society, and the collapse is creeping slowly upon us, but we are like [the frog in slowly boiling water](#), who does not jump out of the water, because we become accustomed to the new normal every time our baseline is shifting.

Maybe reality today after all is too gloomy to grasp for someone. But for us Christians this should not be doom-and-gloom, but good news, of the imminency of the Second Coming. Atheists/materialists must have a hard time acknowledging these things, these facts are so cruel if you are an atheist/materialist.

I have nothing to lose, therefore I can seek out and present these facts to you. I have already lost my reputation.

\* *"U.S. tight oil plays produce ultra-light oil. Almost all of it is too light for refinery specifications. That means that it must be blended with heavy oil in order to be refined and that is why there is demand for Canadian heavy oil."* (from [this article](#) by Art Berman from 2017, on his homepage)

" *"Our thesis is that the U.S. refining system is close to being maxed-out on the amount of shale oil it can process," a Morgan Stanley research note [concluded](#) this month, citing shale oil's light hue, which makes it ill-suited to make high octane gas, as well as jet fuel and diesel."* (from [this article](#) by Sharon Kelly on Resilience.org, 2018)

# The shale oil industry is running out of sweet spots. Part 2.

2023-02-09

*(an elaboration of [this blogpost of mine](#), which is part 1)*

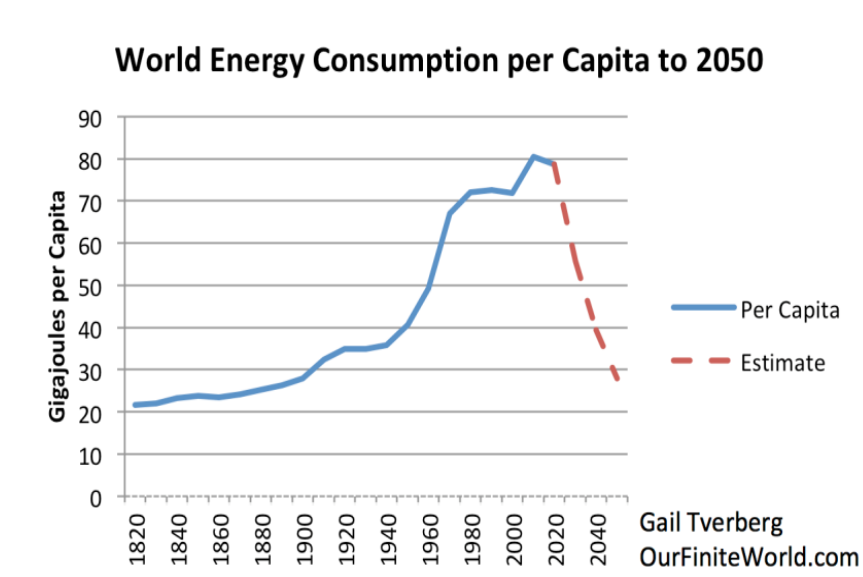
On the whole, [the shale oil industry](#) has been unprofitable. It hasn't in fact made any money, just burned through mountains of debt-money and investor money. It has lost money, and much. Steve St. Angelo on the blog "[SrsRocco Report](#)" has documented this very well.

So it was from the very beginning.

You would suppose, that it being so from the very beginning, i.e. at the beginning of the US shale boom in 2010, it will be increasingly so as time goes by, because the oil industry operates according to the "low hanging fruit principle" (Richard Heinberg's term). It means that the most profitable and easiest oil is produced first. Of course. It has to be that way if oil industry wants to make a profit.

So, in the wake of the peaking of conventional oil in 2005, we went after the dregs. And what now? 13 years after the shale boom began? We go after the dregs among the dregs, the "dregs of the dregs", it's like you have eaten potato peel for a long time instead of real potatoes, potatoes themselves, because you're running out of food, but you brag about your food in your pride, showing how you can feed on potato peel without starving, showing your muscles, but then you run out of enough potato peel, too, and you have to feed on the potato water that the kitchen nearby is cooking its potatoes in, and you are so proud that you cannot even then concede that you are starving.

Such a proud business the oil industry is, for sure. But still it feeds mainly on potato peel, especially in the US, it has not reached the "potato water phase" yet. But it is probably close, at least in US. And then civilisation will lose weight, quickly. In fact we are already losing weight. Energy consumption per capita is declining, according to Gail Tverberg. See this graph from Gail's blog "[Our finite World](#)":



What is the "potato water phase" of the oil industry? It's probably moving into [Tier 2-acreage](#) in its shale oil production. This means it is running out of "[sweet spots](#)" and now goes to less productive shale areas. And it just becomes worse after that, because still the industry operates according to the "low hanging fruit-principle".

Oil geologist and peakoilier Art Berman has for a long time warned about this. Irina Slav warned about it in February 2022, in [this article](#) on OilPrice.com (a very serious and educated site), and just recently [David Messler](#), oilfield veteran with 38 years of experience

in the oil industry, warned about it in the article "[Will U.S. Shale Ever Return To Its Glory Days?](#)", on OilPrice.com, on February 2, 2023.

So this is really insider information. We should take heed of it.

Still the shale oil industry is growing, albeit at a lower pace than before. How long can it grow enough, compensating for the decline in the conventional oil industry? It will be very interesting to follow the development of this industry. I will keep you updated. I spy for signs of Babylon's fall and the Second Coming of Jesus.

\* \* \*

For deeper study, I recommend [this article/youtubevideo](#) by Chris Martenson and Art Berman from 2019.

## When will US shale oil peak?

2023-02-10

([this](#) is what I have written on shale oil before on this blog)

The oil industry is surviving and doing well much because of US [shale oil](#) (fracking), a "heroic" (although not in the eyes of Mother Earth and God) effort to squeeze oil out of rocks by "[hydraulic fracturing](#)", a very complicated and expensive process. This is perhaps the greatest industrial mobilization in history, and the most expensive, too. Maybe it is the most desperate and the most critical, too \*.

Everything stands and falls now with this industry, it seems. Remember that oil is the life blood of industrial civilization, what makes everything work, what keeps the trucks running, what keeps the supply chains working. When shale oil peaks and declines, overall oil production will begin to decline precipitously. So, what do the experts say about the peaking of shale? Here are some suggestions:

### **A peak in 2023?**

*"U.S. SHALE OIL FIELDS BECOMING EXHAUSTED: Forensic Analysis Shows New Production Isn't Offsetting The Large Declines*

*Thus, 2023 will likely be the Year the wheels begin to fall off the Mighty U.S. Shale Oil Industry."*

(from [this Twitter post](#) by Steve St. Angelo of the SrsRocco Report blog)

### **A peak in 2024?**

["U.S. Shale Could Peak In 2024: Energy Aspects"](#), by Julianne Geiger, on October 14, 2022, on the website OilPrice.com.

["Shale Output at Risk of Peaking in 2024, Energy Aspects Says"](#), by Ilena Peng, October 14, 2022, on Bloomberg.

## A peak in 2025 or before?

"[U.S. Shale Could Peak Before 2025](#)", by Ron Patterson, on March 25, 2017, on OilPrice.com.

"[Shale oil boom to peak in 2025, decline from 2030 – OPEC](#)", by Tom Brown, on November 7, 2017, on I.C.I.S.

"[OPEC: U.S. Shale Will Peak in Mid-2025](#)", by "Oil & Gas 360", on September 24, 2018, on the website "oilandgas360.com"

"[US shale oil will dominate the market in coming years, but the tables will turn, OPEC says](#)", by Tom DiChristopher, on CNBC, on November 7, 2017.

\* \* \*

And 2026?

I find it unlikely that US shale oil production will grow beyond 2025. I find almost nothing about a shale peak in 2026 or beyond, on the internet (although I know that some scientists are very optimistic and put the peak around 2030, see [this article](#)). Justin Mikulka writes in [this article](#) from December 7, 2022, on DeSmog:

*"The final non-starter option would be to produce another 4.5 million barrels per day of U.S. shale oil by 2025. That would require the industry to find another shale play comparable to the Permian, which is unlikely to happen since few people are currently spending the money to look for new shale oil "hot spots" in the United States, as the Wall Street Journal [reported](#)."*



I think, based on all the articles above, that a peak in US shale oil is likely to happen 2025 or before, **2025 at the latest**. After that there will probably be a decline, and probably a steep decline, a [Seneca Cliff](#), I think, not a decline as in a smooth [Hubbert curve](#). Around the same time, 2025-2026, we will also have so little net oil exports left on the world oil market, especially diesel exports (I have documented this in my book on oil exports 2022, [here](#)), which is crucial, that I think the Collapse of Civilization will begin then, **in a way everyone in the civilized world will feel**. If shale oil peaks in 2025, the Stock Market could crash really hard a couple of years after that, in 2027 or 2028, just as it did after the 2005 peak of conventional oil ("The Great Recession" started in 2007). **The Collapse of Industrial Civilization will not begin in the Stock Market**, because it is such a bubble, and will continue to be a bubble, it is not in touch with reality, it is mostly online and mirrors the growth of the online world and online business, no, it will begin in the shelves of our shops and grocery stores, and in the price of food and energy, which, already on the rise and very high, will just continue getting higher. **That is what really matters, everything else is just luxury**. For the poor in the world, food and energy is what really matters. We can cut our [discretionary spending](#) a pretty long way without really feeling the impact, but in 2025-2026 I think we will feel the impact of the collapse (which is already underway), everyone of us.

So keep your eyes on 2025 and 2026, because that is the time I think many things will really take off. Enjoy the time we have left in a relatively peaceful and plentiful civilization. **And be ready for divine intervention when civilization really begins to collapse**. Anything could happen. I'm ready for "[the Rapture](#)".

I have written more about the year 2025 and its significance in prophecy, [here](#) and [here](#).

\* In order to get a perspective on how shale oil has saved the world economy, read the following articles:

["The Shale Oil Bubble Accounted For 99% Of US Oil Production Growth Since 2007"](#), on February 11, 2020 by Steve St. Angelo on "Peak Oil News & Message Boards".

And:

["The U.S. Accounted For 98% Of Global Oil Production Growth In 2018"](#), by Robert Rapier on June 23, 2019 on "Peak Oil News & Message Boards".

Kurt Cobb writes in the article ["Can Global Oil Production Climb If The U.S. Shale Boom Is Over?"](#) on Jan 01, 2023, on the blog "Resource Insights", the following:

*"But no other source seems set to provide the kind of growth U.S. shale oil provided, that is, 73.2 percent of the global increase in oil production from 2008 through 2018."*

Observe that 2018 was the year when All Fossil Liquids peaked, according to many experts. Most of the post 2005 oil growth has come from US.

# Something on the Oil Depletion Countdown Clocks on the internet

2023-02-14

**How many years of petroleum oil do we have left in our reserves?** It is a pretty important question. Because oil is the life blood of civilization. Oil is what make trucks and container ships running, what gets food into the shelves of our grocery stores.

I have written about this fateful question in blogposts on this blog before, [here](#) and [here](#).

There are quite a few "Oil Depletion Countdown Clocks" out there on the sea of internet, and most of them **vastly overstates our oil reserves**, at least by half, according to some experts like [Ron Patterson](#) (see [this article](#)) of the [Peak Oil Barrel](#) blog (see also the text at the end of this blogpost, at [1]).

Here are the countdown clocks I could find:

[Official Oil Depletion Clock](#) (by Peter Leeds) (thinks we have 46 years of oil reserves left, or 1577 billion barrels)

[Oil Countdown](#) (thinks we have 1,491 billion barrels left, counts only barrels, not years, in years it would probably be about 44 years)

[Peak Oil Clock](#) (I don't understand this clock, maybe you do)

[Worldometer's World oil statistics/Oil left in the world](#) (thinks we have 47 years of oil reserves left, or 1650 billion barrels)

[The World Counts' The End of Oil clock](#) (thinks we have 44 years left of oil reserves)

(From the latest page:

**"No more oil by 2068**

In 2018, there were an estimated 1.73 trillion barrels of oil in the world. Enough oil to last another 50 years with an average global oil consumption of 95 million barrels per day.")

[Our World in Data](#) (thinks we have 51 years left of oil reserves, from 2023 on)

I remember seeing one clock where we had 50 years left, but I cannot find it anymore. But all this indicates what many people think about our oil reserves.

\* \* \*

Of course we are never going to produce the last barrel of these reserves. It will be uneconomical, to say the least. Civilization will have collapsed completely long before that.

But it is a thought experiment. If you believe in these statistics, you may calculate, with the help of them, the end of civilization **at the latest**, because a green transition to renewables is impossible at scale, as I have shown in [this blogpost](#). It's just not possible in physics terms.

But suppose the most optimistic of these clocks is correct. That we have 51 years left of oil. That we really will recover the last barrel of these reserves. Then we land at 2074. One year before 2075, which certain Christian prophets around [this homepage](#) in the US say is the end of the Age of Grace, of a 2000 year period that began with the Fall of Jerusalem, and will end with the Second Coming of Jesus.

Prophecied by the Essenes, according to these prophets. It's interesting. Read for example [this article](#) about it.

I "might" be alive 2074 by the way. Then I'm 90 years old. Then you understand why I think that I will not die by age or sickness, but by starvation.

Could I be alive then? Only if a miracle happens. If we invent some miracle technology that defies entropy. Or then I might simply be transformed to heaven in "[the Rapture](#)", thus avoiding death. But Jesus might wait until Babylon falls completely. He might. But I don't count on it, because Jesus is merciful. But I have calculated that I might very well die from starvation 1.1.2036. It is a guess.

\* \* \*

[1]

### **Something about estimating our oil reserves:**

In [this blogpost](#) I wrote the following:

"We can calculate how long civilization will last by looking at our oil reserves.

*"In its latest [Statistical Review of World Energy](#), BP estimated the world had 1.7297 trillion barrels of crude oil remaining at the end of 2018. That was up from 1.7275 trillion barrels a year earlier and 1.4938 trillion barrels in 2008. In 1998, the world had 1.1412 trillion barrels in remaining reserves."* (from [this article](#))

There are some tricky things here. Something isn't as it seems. How could our oil reserves grow, if we seriously consider the following facts:

*"Every year since 1984 oil consumption has exceeded oil discovery."*  
(from a comment to [this article](#))"

End quote.

Maybe the main reason, or one of the main reasons, why our oil reserves have grown so much lately, is that we have begun to count all kinds of strange oil and not oil, especially very expensive unconventional oil, in our reserves. This is tricky. It is something of the same phenomenon as I wrote about in [this blogpost](#). "Stealth Peak Oil". We fool ourselves into thinking that we have a lot of oil, while the real question is **if the oil is affordable**, if it is economical to exploit. In poor times, in financial depressions, in the collapse of industrial civilization, which is coming, 100 % sure, sooner or later, we might not afford to produce our very expensive shale oil and tar sand deposits. And we are marching over "the Energy Cliff" (Steve St. Angelos term) right now, into a deeper and deeper global recession, and finally it will land in a depression which never ends before the End arrives. A probably happy end, I think, because I believe in a higher world.

\* \* \*

The article  
"Countdown to  
Extinction How I  
quite worrying and  
learned to love the  
apocalypse" on Peak  
Oil News &  
Message boards on  
May 28, 2016, is  
interesting, for  
deeper study.



EROEI of  
industrial  
civilization is declining with an  
accelerated rate of decline.

2023-02-16

In the beginning of the history of the oil industry, in 1859, when the first commercial oil wells were drilled, you only needed to drill a hole in the ground, and oil gushed out of the ground, just out of the pressure in the oil well. Today you build giant [deep water oil rigs](#) to get the same amount of oil out of the ground. And the oil have to be pumped out, it does not gush out any more. In virtually all oil fields in the world. Or even worse, you use hydraulic fracturing ([fracking](#))

onshore, to get the last dregs of the oil reserves out of the rocks. A very, very costly and complicated process, which requires astronomical amounts of water, sand and chemicals. Just to get the same amount of oil out of the ground as they did in 1859.

This means that it costs more and more energy to get the energy out of the ground. You lose more and more energy in the process of obtaining energy. This energy cost is called "EROEI", "Energy Returned on Energy Invested". And it is the same as the "ROI", "Return on Investment", of conventional economics, it is only applied to energy.

This higher cost comes because of the "low hanging fruit-principle" (Richard Heinberg's term), that is, you exploit the easiest oil first, the most profitable oil first. This pertains to all energy sorts. And when conventional oil gets too expensive, you go first to [unconventional oil](#) (things like deep water oil, fracking, tar sands), then to all sorts of alternative energy, renewable energy, which have the lowest EROEI of all the energy sorts available. How low? Well, if oil in the beginning of the history of the oil industry had an EROEI of 100:1 (the EROEI ratio, this means it costs only 1 barrel of oil to produce 100 barrels of oil), Solar Panels, or Solar Photo Voltaics, had an EROEI of 2:1 to 3:1 in the beginning of the twentyfirst century, according to Charles A. S. Hall in the following very important paper (the EROEI of solar PV has improved much after that, though):

Charles A.S. Hall\*, Jessica G. Lambert, Stephen B. Balogh.  
2014. [EROI of different fuels and the implications for society](#). Energy Policy 64: 141-152.

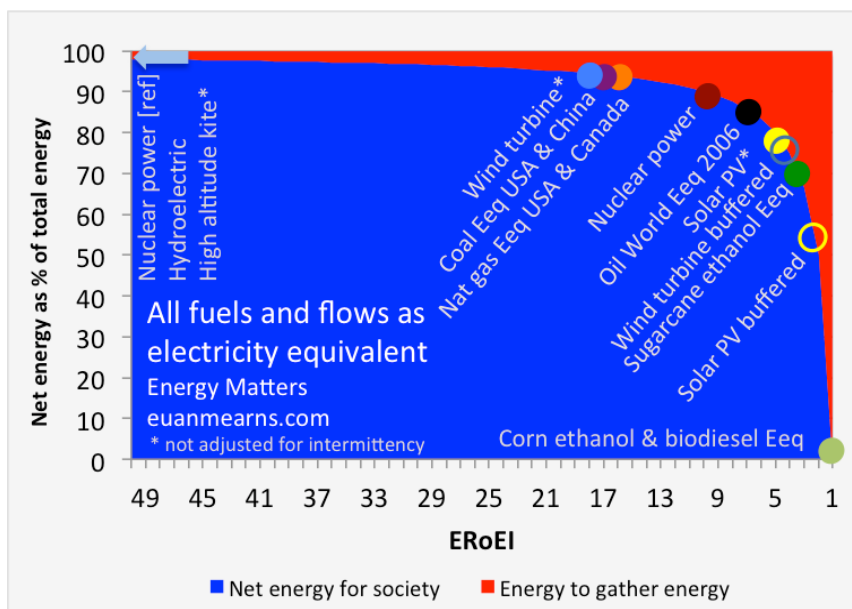
From the paper in chapter 2. "Meta-analysis of EROI values for various fuel sources", the authors say the following about the EROEI of solar PV:



*"It should be noted that several recent studies that have broader boundaries give EROI values of 2 to 3:1 (Prieto and Hall, 2012, Palmer, 2013, Weissbach et al., 2013),"*

In the blogpost [Net Energy Cliff Will Lead to Collapse of Civilization](#) from December 11, 2019, on the blog Energy Skeptic, Alice Friedemann writes: *"Charles A. S. Hall, who has studied EROEI for most of his career and published in Science and other top peer-reviewed journals, believes that society needs an EROEI of at least 12 or 13:1 to maintain our current level of civilization."*

Just think about it. How big the difference is between 100:1 and 2:1, and 12:1-13:1 and 2:1. The difference gets astronomical when you ponder this graph, how EROEI falls with an accelerated rate of decline:



*(image taken from the blogpost "[EROEI for beginners](#)" on the blog "Energy Matters", by Euan Mearns, on May 25, 2016. This vitally important graph is called "The Energy Cliff", a term coined by Mearns, a term often used by Steve St. Angelo on the SrsRocco Report blog, see more relevant stuff by St. Angelo in my suggestions for deeper study in the end of the post)*

This is a simple graph, easy to understand. An EROEI ratio of 50:1 means that only 2 % of the energy obtained goes into producing more energy. The following calculations can help us to understand how this amount of energy invested grows exponentially as EROEI decline (it is from [this blogpost of mine](#) on this blog, where I try to calculate the future EROEI for the global oil industry) with an accelerated rate of decline:

2020: 10:1 (10 % of the energy obtained goes into producing more energy)

2021: 9,2:1 (11,7 % of the energy obtained goes into producing more energy)

2022: 8,5:1 (13,4 % of the energy obtained goes into producing more energy)

2023: 7,8:1 (15,1 % of the energy obtained goes into producing more energy)

2024: 7:1 (16,8 % of the energy obtained goes into producing more energy)

2025: 6,3:1 (18,5 % of the energy obtained goes into producing more energy)

2026: 5,5:1 (20,2 % of the energy obtained goes into producing more energy)

2027: 4,8:1 (21,9 % of the energy obtained goes into producing more energy)

2028: 4:1 (25 % of the energy obtained goes into producing more energy)

2029: 3:1 (33 % of the energy obtained goes into producing more energy)

2030: 2,5:1 (40 % of the energy obtained goes into producing more energy)

So, as you see here, in the beginning, when you go from 50:1 to 40:1, there is only a very marginal cost increase, from 2 % to 2,5 %. Then, for every point downwards, the cost increases exponentially, so that the difference between 4:1 and 3:1 is a huge 8 %. And from 3:1 to 2:1 it is even more huge, 17 %, and from 2:1 to 1:1 the difference is astronomical, it is 50 %. This pertains to all exponential functions. It is the last doubling that catches you by surprise.

So even if the calculated EROEI values (as in the graph below) over the years decline linearly, EROEI can still decline with an accelerated rate of decline. Don't be fooled by this graph (in Charles A.S.Hall et al.'s paper above, from 2014):

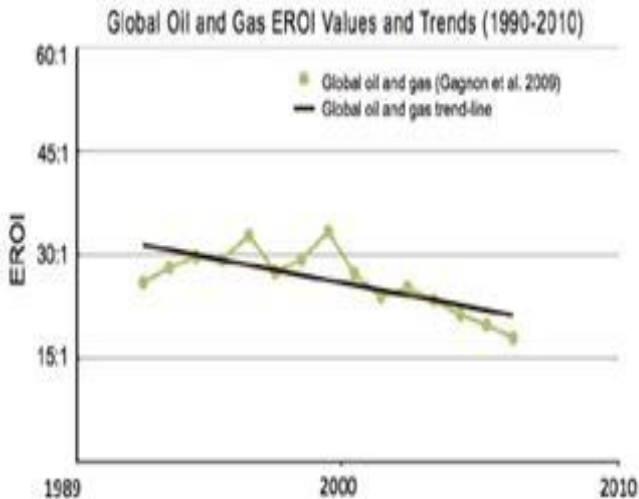


Fig. 4.

Gagnon et al. (2009) estimated the EROI for global publicly traded oil and gas. Their analysis found that EROI had declined by nearly 50% in the last decade and a half. New technology and production methods (deep water and horizontal drilling) are maintaining production but appear insufficient to counter the decline in EROI of conventional oil and gas.

So what is the EROEI of the global energy sector right now, on the whole? In [this blogpost](#) on the blog Energy Skeptic, from December 11, 2019, Alice Friedemann writes:

*"In the USA in 1930 an "investment" of the energy in 1 barrel of oil produced another 100 barrels of oil, or an EROEI of 100:1. That left 99 other barrels to use to build roads, bridges, factories, homes, libraries, schools, hospitals, movie theaters, railroads, cars, buses, trucks, computers, toys, refrigerators – any object you can think of, and 500,000 products use petroleum as a feedstock (see point #6). By 1970 EROEI was down to 30:1 and in 2000 it was 11:1 in the United States."*

**I once heard or read someone say that EROEI for civilization as a whole is 11:1 right now.**

It could be true. Just think about the following words in the ingress to [this scientific paper](#) from 2009:

*"Gagnon et al. (2009) estimated the EROI for global publicly traded oil and gas. Their analysis found that EROI had declined by nearly 50% in the last decade and a half."*

Remember then that the EROEI declines with an accelerated rate of decline, faster and faster.

In the abovementioned paper by Charles A.S. Hall et. al., we read the following in 4.1:

*"The EROI for petroleum production appears to be declining over time for every place we have data. [Gagnon et al. \(2009\)](#) were able to generate an approximate "global" EROI for private oil and gas companies using the "upstream" financial database maintained and provided by John H. Herold Company. These results indicate that the EROI for publicly-traded global oil and gas was approximately 23:1 in 1992, 33:1 in 1999 and 18:1 in 2005 ([Fig. 4](#)). This "dome shaped" pattern seems to occur wherever there is a long enough data set, perhaps as a result of initial technical improvements being trumped in time by depletion."*

These were global numbers. So if EROEI declined from 33:1 in 1999 to 18:1 in 2005, it may well be 11:1 today, or even less, because of the low EROEI of shale oil (1) and tar sands (2), which has grown to become a big part of the oil industry.

In the list above with my calculations of future EROEI:s, I calculated that EROEI for the global oil industry in 2030 would be 2,5:1, i.e. 40 % of the energy obtained will go into producing more energy. We are done by then. Collapse will come before that.

\* \* \*

If you google for "EROEI declines with an accelerated decline rate", you won't find almost anything about it (I only found [this article](#) from May 16, 2020). Although to understand this is one of the most important things society can do today. It is the same as with global warming (as I wrote in [this blogpost](#)), almost no one mentions that global warming is exponential.

### **For deeper study:**

"[ERoEI for Beginners](#)". Posted on May 25, 2016 by Euan Mearns, on the blog Energy Matters.

"[Steve St. Angelo: The World is Heading for an Energy Cliff](#)" on youtube, October 14, 2021

"[Diminishing Returns, Energy Return on Energy Invested, and Collapse](#)". Posted on the blog "Our Finite World", on December 6, 2013, by Gail Tverberg.

\* "the Godfather of EROEI analysis who developed the concept during his PhD studies and first published the term in 1977."  
(according to Euan Mearns [in this blogpost](#))

(1) *"The two methods of processing synthetic crude from organic marlstone in demonstration or small-scale commercial status in the U.S. are in situ extraction and surface retorting. The considerable uncertainty surrounding the technological characterization, resource characterization, and choice of the system boundary for oil shale operations indicate that oil shale is only a minor net energy producer if one includes internal energy (energy in the shale that is used during the process) as an energy cost. The energy return on investment (EROI) for either of these methods is roughly 1.5:1 for the final fuel product."* (from [this paper](#) by Cutler J. Cleveland and Pete O'Connor, 2011)

(2) **"Our EROI estimates for tar sands fall within the range of previously published studies. Brandt et al. provide the most detailed analysis of tar sands yet. They find EROI values for tar sands (from both surface mining and in situ extraction, with direct energy only) fluctuating between 2.5:1 and 4:1 during the period from 1990 to 2003, very similar to our results."** (from [this blogpost](#) by Alice Friedemann on the blog Energy Skeptic, May 21, 2016)

## The age of scarcity is here

2023-02-21

The age of scarcity is here, according to the following youtubeinterview with economist Charles Hugh Smith, posted yesterday by Adam Taggart of the project "Wealthion": "[Turmoil Ahead As We Enter The New Era Of 'Scarcity' | Charles Hugh Smith](#)".

.

It's confirmed by the following article on OilPrice.com:

["Rising Metal And Mineral Prices Could Derail The Energy Transition"](#), by Felicity Bradstock, on Feb 16, 2023.

In the article I read the following:

*"From January 2021 to March 2022, the price of lithium increased by over 700%, the price of cobalt by over 150%, and nickel by almost 100%."*

It's incredible.

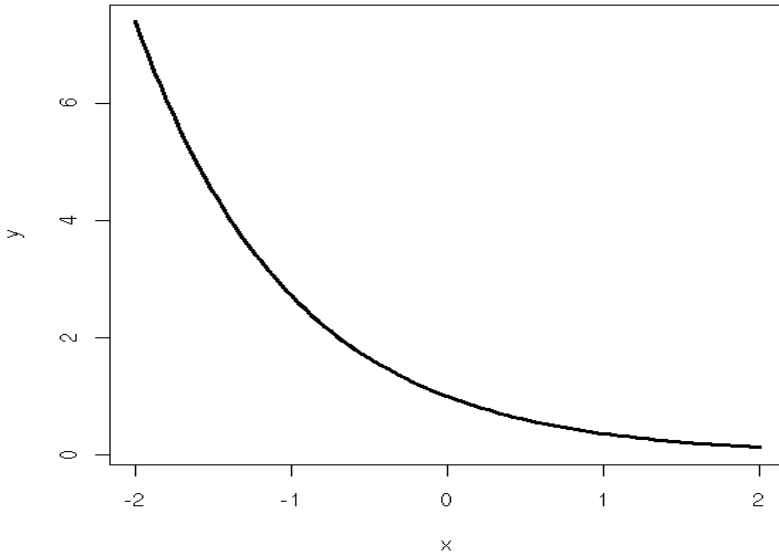
## An important lesson in energy mathematics

2023-02-22

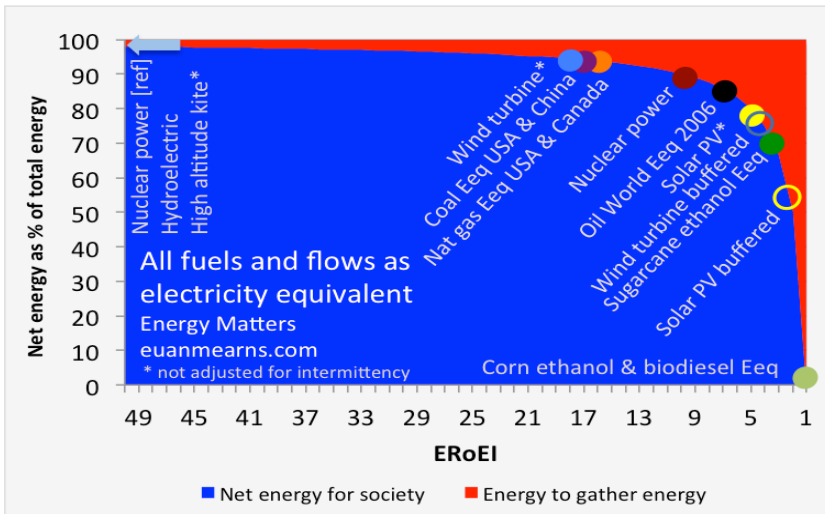
I had to change some things in [this blogpost of mine](#), after an academic mathematician from Iran, Arash, who attends the same writing course as me, corrected me. In that blogpost I wrote, before I made the changes, that EROEI declines exponentially. It was not true. An exponential decline curve looks like this:



## Exponential Decrease



The curve of the EROEI of oil, is not like that, it is like this:



What is this curve called? I cannot find much about it when I search on [Ecosia](#) (an ecological search engine). But I have once read on the

internet that oil geologist Jeffrey J. Brown called it "an accelerated rate of decline" curve\*. He used that term when he wanted to describe the decline of oil exports. It's a long name, but I don't find any better. Neither Arash knew its name. So I will call it that.

So, reality was worse than what can be described with the name "exponential decline". An accelerated rate of decline is much, much more serious than an exponential decline. The first ends abruptly, the other never reaches its end, because the decline in the end is so slow and smooth, slower and slower as time goes by.

Excuse me for this failure, but I have only secondary school mathematics (högstadiematematik) to build upon.

An accelerated rate of decline means that the decline goes faster and faster as time goes by.

So your decline rate goes from 5 % to 7 % to 13% to 20 % to 29 % to 40 % to 55 %. You see the trend?

[Albert Bartlett](#) (1923-2013), the renowned professor of physics, once said that *"The greatest shortcoming of the human race is our inability to understand the exponential function."*

I will, based on the mathematics lesson above, make my own version of this statement. I would say that *"The greatest shortcoming of the human race is our inability to understand the accelerated rate of decline function."*

This mathematic function, "the accelerated rate of decline", will seal our fate. It is our question of destiny.

You find almost nothing about it on the internet, when you google. Isn't that typical?

\* *"So, you look at exponential declines in oil production and hyperbolic—hyperbolic just means that the decline rate slows with time. Well, this is an accelerating decline rate. So, it'd start out like at 5% and then 10% and then 15% and 25%."* (from [this article](#) by Brown and Chris Martenson, on September 15, 2015, originally published by the Peak Prosperity blog)

## More about the Energy Cliff, EROEI and the accelerated decline rate of oil

2023-04-22

*"Exploration and production (E&P) costs in the oil and gas industry increased by some 100% between 2000 and 2012 (IHS 2014)"* (from [this article](#) by Gerhard Toews and Alexander Naumov, 22 Feb 2016)

This is a 10 % rise of the real cost of oil and gas every year. How does this fit into the [EROEI](#)-calculations? To calculate the direct relation between these things is too difficult math for me. But something I can say, anyway.

In [this blogpost](#) I wrote the following:

"So what is the EROEI of the global energy sector right now, on the whole? In [this blogpost](#) on the blog Energy Skeptic, from December 11, 2019, Alice Friedemann writes:

*"In the USA in 1930 an "investment" of the energy in 1 barrel of oil produced another 100 barrels of oil, or an EROEI of 100:1. That left 99 other barrels to use to build roads, bridges, factories, homes, libraries, schools, hospitals, movie theaters, railroads, cars, buses, trucks, computers, toys, refrigerators – any object you can think of, and 500,000 products use petroleum as a feedstock ([see point #6](#)). By 1970 EROEI was down to 30:1 and in 2000 it was 11:1 in the United States." (1)*

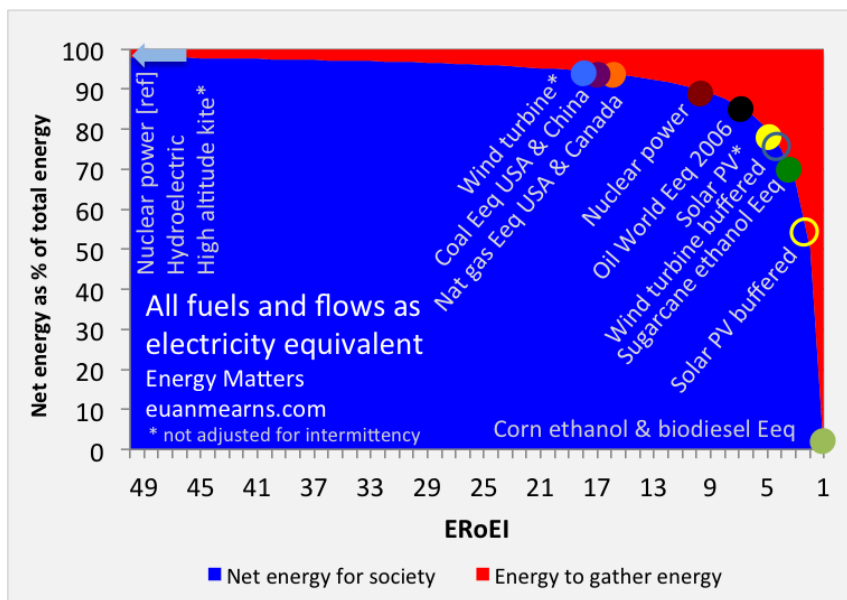
**I once heard or read someone say that EROEI for civilization as a whole is 11:1 right now. "**

End quote.

If the EROEI of oil is 11:1 now, in 2023, then EROEI has declined with one point out of hundred every year, if it was 100:1 in 1930.

In [the same blogpost](#) I calculated that between 2020 and 2030, the EROEI of oil will continue to decline by one point out of hundred every year.

This feels reasonable. But the cost of oil will rise exponentially, because of the Energy Cliff dynamics, demonstrated in this graph by Peak Oil blogger and expert Euan Mearns:



Some are even more radical in their estimates. In [this article](#) from 2010 we read the following:

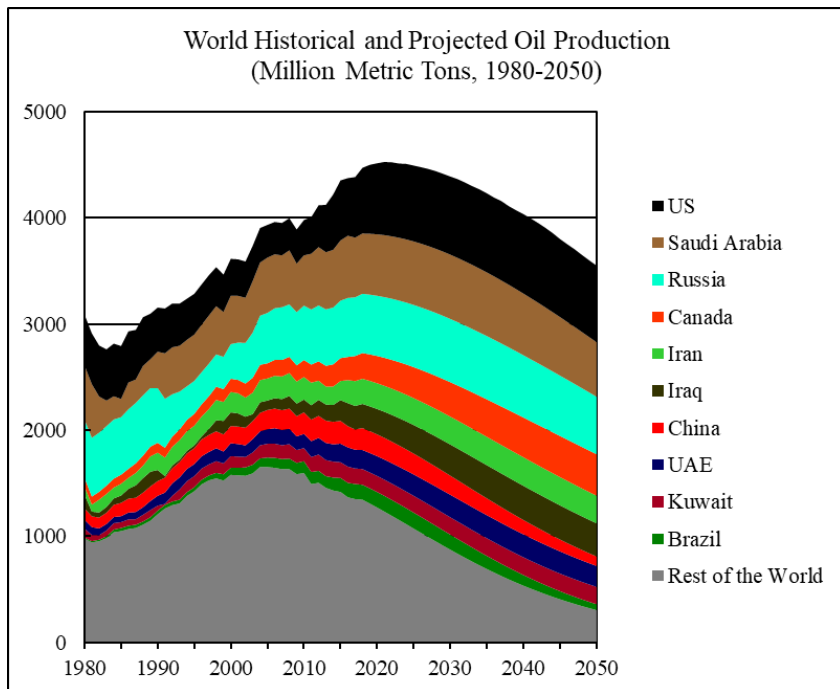
*"The cost of discovering each new barrel of oil and gas has risen three-fold over the last decade as technology has pushed the frontiers of exploration into ever more remote areas."*

Three-fold is more than 100 %. It is a rise of 300%. Already between 2000 and 2010 the cost rose so much, according to the article above. And we know that the rise in cost of oil exploration and production is exponential, because of the Energy Cliff. What is it by now?

Therefore it seems reasonable to suggest that EROEI declines with one point out of hundred every year.

EROEI declines **with an accelerated rate of decline curve**. There is other things with oil that also decline in that manner. **Oil production itself**, after Peak Oil, declines with an accelerated rate of decline

curve. Just look at this projected oil depletion curve from the very initiated Peak Oil-blog "Peak Oil Barrel" ([this blogpost](#) from 2018), which also roughly follows the classical graphs by Marion King Hubbert and Colin Campbell, the fathers of the Peak Oil movement:



Study this graph cautiously. Do you see that the decline of oil production is an accelerated rate of decline curve?

So here we have a double squeeze on oil, one from declining EROEI and one from production decline. Together these two squeezes will make an abrupt decline in the oil industry, a real falling over a cliff. The decline will be steeper than the graph above shows. It will be a "[seneca cliff](#)" according to the Peak Oil expert Ugo Bardi. The Peak Oil expert Alice Friedemann said once, a few years ago, that we will have half of the oil we have today in 2035. And what she forgot to say is that this oil will not be of the same quality as the oil we had earlier. It will be expensive oil. It will be mostly unconventional oil

(new oil discoveries today are often in unconventional oil, or the oil fields are so small that they are as expensive to produce as unconventional oil. The estimates about our oil reserves seldom mentions these facts). We will have half as much, and what we have will be very expensive to produce, and more and more so. This is also a double squeeze, a double pressure on the world economy.

## Conclusion

If I'm right about the decline rate of the EROEI, that it will decline with one point out of hundred every year, then we will have an EROEI of 2:1 (50 % of the energy obtained will go into producing new energy) in the oil industry around 2030. This year will be a milestone in the history of civilization. That expensive oil we cannot manage. According to philosopher Kirkpatrick Sale, civilization will have collapsed by then. I agree. It cannot survive much longer than that. **It is already in the process of collapsing right now.** There are several states in the world that have already collapsed. States like Venezuela, Somalia, Yemen and Afghanistan (see [this recent collapse map](#)). This relatively slow train wreck, this slow collapse, **will probably take seven years more**, and be complete somewhere around this time in 2030. Then, in 2030, shelves will be empty in central Stockholm, and **a mass exodus to the countryside will take place**, yes, it will begin early on in the collapse process. Things will become more expensive for seven long years, then something will burst, and the Big Collapse is here.

What then? Maybe we will manage to survive for some time on the countryside, in small farmer communities. If you are lucky, you will be part of such one. But it will cost you money. If you are lucky, you will survive a few years more after the collapse of industrial civilization, and I have calculated that this for me probably will not extend longer than to 2036, in the winter. Then I will probably die from starvation or cold. At the latest by then, I think. I could die sooner from the collapse. It's completely possible. Because I'm on the bottom of society. This is an old calculation I have done, several years ago, and

it still feels realistic. Farming will be exceedingly difficult on the countryside after the collapse, because of dead and sterile soils, and because of a crying lack of horses and oxes and 1800-century equipment and infrastructure.

I meditate on these things. I feel their impact. I try to feel their reality. It is so far, so far from our daily reality. But still, lack of energy will dictate our future. Up to a point, and that point is where the spiritual realities at last break through, when miracles begin to happen, when Jesus will return. This is much more difficult to calculate upon and speculate upon. I somehow have two scenarios in my head, one is the one that energy decline dictates, and the other is what God's promises dictate. It will be really interesting to see how these things will play out together.

(1) Alice Friedemann also says in the same blogpost the following: *"Charles A. S. Hall, who has studied EROEI for most of his career and published in Science and other top peer-reviewed journals, believes that society needs an EROEI of at least 12 or 13:1 to maintain our current level of civilization."*

## Peak All Liquids in 2025/2026? Conventional oil has begun to decline.

2023-04-27

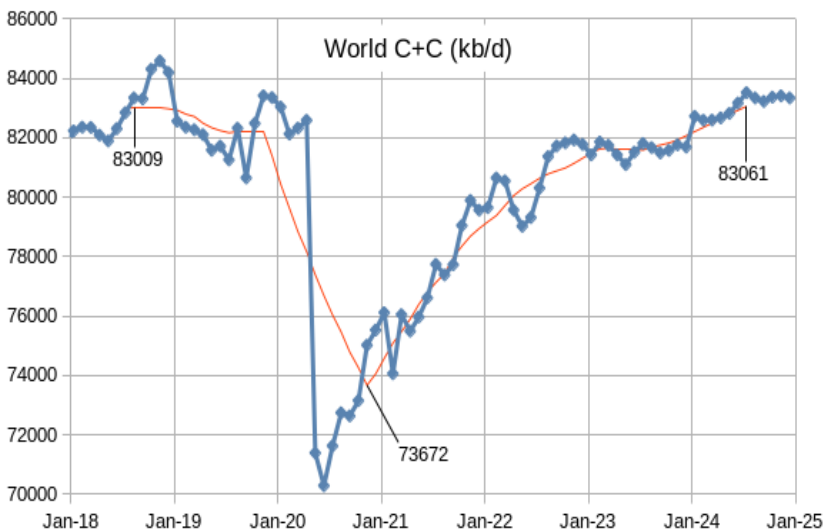
According to many Peak Oil experts, people like Alice Friedemann and Richard Heinberg, world oil production (all liquids) peaked in November 2018. Then we produced around 100-102 million barrels per day.



Where are we now?

*"World All Liquids Supply increased to 101.9 Mb/d in March 2023, an increase of 7.8 Mb/d over the past 23 months."* (from [this blog-post](#) on the blog Peak Oil Barrel)

"World crude + condensate" peaked in November 2018 at almost 85 million barrels per day, and is now at a little above 81 million barrels per day. This is a recent forecast by Dennis Coyne on the Peak Oil Barrel blog, from [this blogpost](#):



Where are we headed regarding the all liquids production?

According to "Maxojir", in [this recent youtubevideo](#), we will reach a peak in all liquids in 2025/2026 at almost 103 million barrels per day. And there will be a long plateau which stretches itself into 2030.

I wonder if he ever heard about the recently announced production cut of 3.66 million barrels per day by OPEC+ (see [this article](#) among many such). This makes "Maxojir's" forecast unlikely. But even if he is right, it does not alter the fact that Peak All Liquids occurred in

2018. Because a few hundred thousand barrels per day more than the peak in 2018 does not constitute a new peak. Therefore we say that Peak Conventional Oil happened in 2005-2006, although conventional oil have increased a little since then (1).

And then we have the recent [global banking crisis](#). This will also spell problems for the oil industry, especially the shale industry, funded by debt as it is.

Soon 5 years have elapsed since we reached Peak Oil (all liquids). Some said that we can be sure of the fact of Peak Oil only 5 years in rear view. Now we are almost there.

It's a strange situation. The peak plateau of all liquids just lengthens and lengthens, while oil just become more and more expensive to extract. We are fooling ourselves with the quantity of oil. We pretend that everything is just okay. This we do while the Peak Oil-related collapse only deepens.

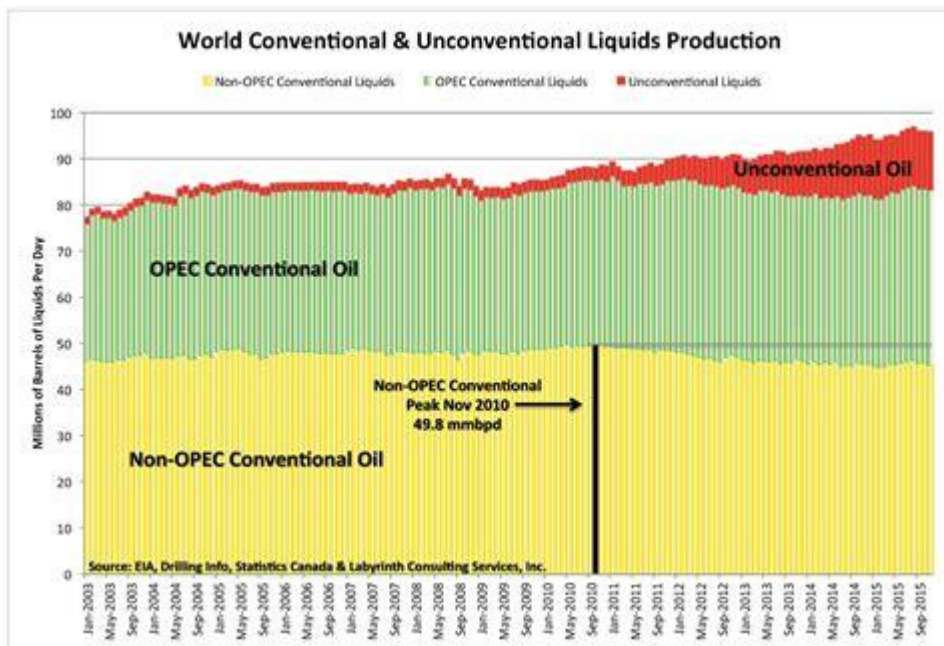
And the new oil discoveries we make? **They are almost all in unconventional oil**, and if it is not unconventional oil, it is expensive conventional oil, which is as unconventional oil (if we discover conventional oil today, it is in small oil fields, which make them expensive. Remember that offshore oil, or heavy oil, is unconventional oil, and extremely expensive, especially if the fields are small). The days of cheap oil are over, and have been so for a long time. **Still it's true that conventional oil peaked in 2005-2006.** I heard it confirmed in [this recent youtubevideo](#) by the very initiated Steve St. Angelo (this is one of his best videos ever, I recommend it warmly). It hasn't changed. But what has changed with conventional oil, is that **it has begun to decline**. Steve St. Angelo says exactly that in the video above, and I have also heard Richard Heinberg say it. Energy investor Leigh Goehring also say it in [this youtubevideo](#). Yet it does not make any headlines (try to google it, you do not find anything about it). Although **it is a very, very big thing**. What it means, is that unconventional oil has to compensate for a constantly bigger and bigger

loss of conventional oil. And this also means that the EROEI is steadily rising, faster than before. We are very close to the Energy Cliff because of this, which starts **when unconventional oil cannot longer compensate for the loss of conventional oil**, which in the end will cause world oil production (all liquids) to begin to decline, at last. Until that, we will experience [the Red Queen Syndrome](#), which means that we have to run faster and faster in order to stay in the same place.

But few write and speak about these things. The silence is deafening on the internet and out there in reality. This I have noticed, because I try to keep myself updated about these things on the internet. Especially regarding the decline of conventional oil, it's almost impossible to find information, and find someone who are tracking this decline. This is very remarkable. It is similarly very, very difficult nowadays to find someone who are tracking the decline of oil exports, and especially diesel exports. Petroleum geologist Jeffrey J. Brown, who once spoke and wrote so much about it on the internet, is silent, and have been so for a long time. Why? Shouldn't we speak all the more about it, the closer we come to the Energy Cliff? This is very sad, because society needs to be prepared for what's coming, for the Collapse of Industrial civilization. Steve St. Angelo said in the video above that people should not demonstrate, this is wasted time, they should instead position themselves wisely for the coming storm, make the needed preparations, build a life that can stand the storm. This is extremely important. It eases much suffering.

But the aftermaths of Peak Oil are very noticeable. And they are so increasingly. Many are tracking the Collapse, which is deepening, daily. But they seldom understand the causes, that it stems from lack of cheap fossil energy. They are "energy blind". And they often do not understand that we will never be able to rebuild industrial civilization after the Collapse, because of lack of fossil energy. Thank God for that. I don't want this gigantic death machine to become eternal.

(1) It is difficult to find newer graphs, but this can illustrate my thesis about the 2005-2006 conventional peak (from [this blogpost](#) by Art Berman 2015):



# When will the Permian basin shale play peak?

2023-04-28

Veteran energy investor Leigh Goehring says in [this youtube video](#) that just about all the growth in global oil production (all liquids) comes nowadays from the [Permian basin shale play](#) in America, a fracking play in Texas and New Mexico which produces shale oil. Therefore it is critical to know when it will peak. Goehring is saying that conventional oil is declining, so when the Permian basin peaks, global oil production (all liquids) will begin to decline.

So when does Goehring think the Permian will peak? Answer: he thinks the peak will be reached **in almost one and a half year**. So, around wintertime 2024/2025. Interesting is also to know that the Peak Oil expert Steve St. Angelo believes that 2025 is the year when we reach the Energy Cliff (see for example [this page](#)), when things will really take off. Somewhere (like [here](#)) he said that we have already fallen off the Energy Cliff.

# According to actuary and academic Peak Oil-expert Gail Tverberg, the decline of oil has begun.

2023-05-05

*"One part of today's problem is the fact that the world's fossil fuel supply, particularly oil, is becoming depleted. Extraction is not rising sufficiently to keep up with population growth. In fact, total fossil fuel extraction may begin to fall in the near future. In some sense, the fossil fuel supply is no longer adequate to go around. To relieve the stress of inadequate supply, some inefficient users of energy need to have their fossil fuel consumption greatly reduced."*

(Gail Tverberg in the article "[The bumpy road ahead for the world economy](#)", posted on May 4, 2023 on the blog Our Finite World)

**My comment:** Gail Tverberg also believes, like Alice Friedemann and many (most?) peakoilers, that global oil production (all liquids) peaked in November 2018 (see [this blogpost](#) by Tverberg on July 15, 2021).

[This article](#) by Rex Weyler on March 22, 2020, is also a good one about the fact that the decline of oil has begun. It sums up the situation pretty well.

\* \* \*

More from the blogpost by Tverberg.

**"[6] The world economy is now headed for a bottleneck. The world economy is similar to a Ponzi Scheme, with growth in the output of goods and services necessary to fund financial promises**

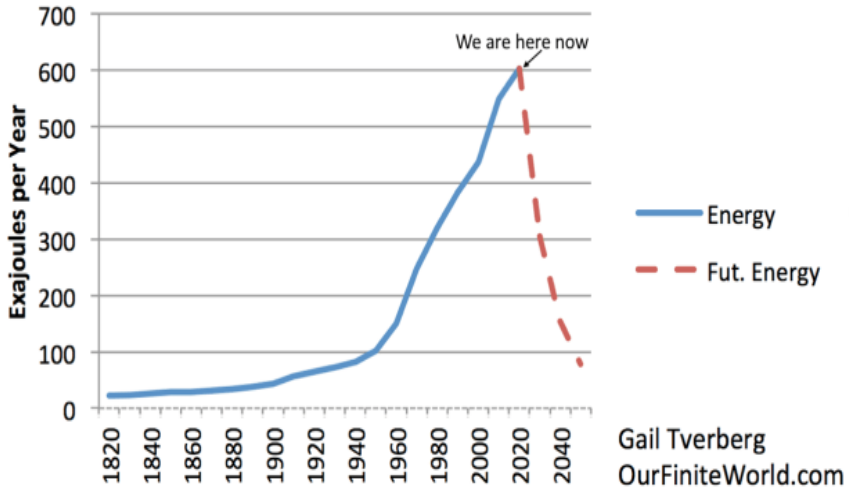
**of many kinds. There are limits to the amounts of fossil fuels available at affordable prices, and the world is hitting those limits now."**

"We have known for a very long time that fossil fuel output is limited. Back in 1957, Rear Admiral Hyman Rickover of the US Navy [gave a speech](#) warning that world-wide fossil fuel energy supplies were expected to become unaffordable between 2000 and 2050. High oil prices seem to have been a [major factor underlying](#) the Great Recession of 2008-2009. This especially affected the US, with its large amount of subprime housing debt. The problems experienced since late 2021 with [spiking prices of oil](#) and high prices of imported coal and natural gas are also evidence of the limits the world is reaching."

**My comment:** The fact that the price of producing natural gas also has risen for a long time, is tough and problematic for the world, because the world oil industry has for a long time compensated for the decline of conventional oil by making [Liquefied Natural Gas](#) (so called LNG), which nowadays comprises about 40 % of all so called "oil" (all liquids), according to petroleum geologist Art Berman in [this article](#) on "Resilience.org" on January 18, 2023.

This graph is from the same blogpost by Tverberg:

## World Energy Consumption to 2050



**My comment:** Notice that Peak Oil-expert Alice Friedemann on the blog "Energy Skeptic" has come to slightly similar results in her forecasts. She thinks that in 2035 we will have only half of the oil we have today (all liquids). This graph by Tverberg is more radical in its forecast.

I heard from Peak Oil-expert Steve St. Angelo in [this recent youtube video](#) that we have, during the last decade, been able to rise global oil production **by adding a massive amount of debt**. That our oil production is totally dependent on mountains of debt. That when this debt bubble begins to burst, oil production will also fall rapidly.

Interesting in this context is also to notice that Sweden in 2014 was considered the most privately indebted nation (see [this Swedish article](#)). The most indebted nations are the most vulnerable in a global collapse, so are also those nations without oil of their own, so called "oil importing nations". Sweden is such a nation, that is both very indebted and has no oil of its own. It is also very important to note



that **neither has Sweden any coal or natural gas of its own**. This, coupled with being situated in a relatively very cold climate, spells trouble. This is why I think I will die by starvation around 1.1.2036, at the latest. Within twelve and a half years.

So, although it is true that Global Warming hits the poorest countries of the world hardest, it is also true that Peak Oil and fossil fuel depletion hit the western and northern countries hardest, among other things because they are the least self-sufficient nations, and often have a cold climate. So, in the end it will maybe be plus minus zero. Only with the stark warning that **probably oil and other fossil fuel depletion will hit us first**, before the worst effects of climate change reaches us. My estimate is that oil depletion will begin to hit us really hard in 2025-2026, when global oil production (all liquids) will begin to decline very fast, and climate change in turn will do the same around 2030, plus minus one year, when we get the first Blue Ocean Event (this is my conservative estimate).

Gail Tverberg writes in the abovementioned blogpost the following about which countries will fare best in a global Collapse:

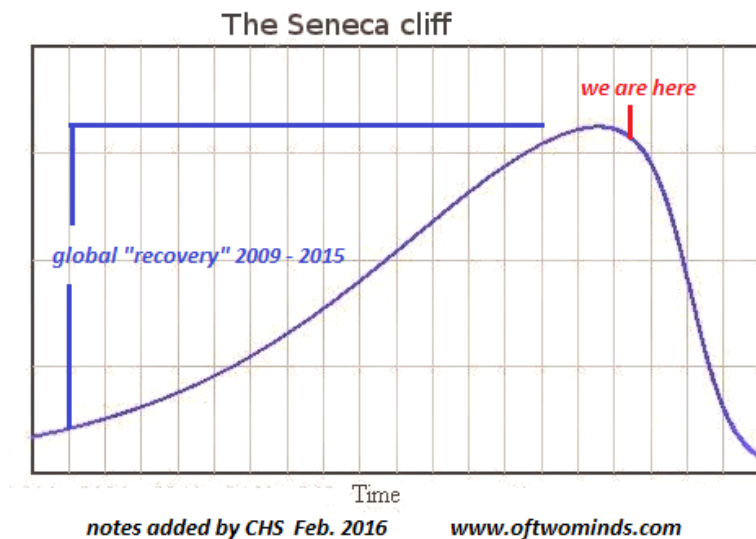
*"If energy consumption falls this rapidly, the world economy will have to adapt in many ways. Economies that cannot tolerate high oil and energy prices are likely to be squeezed out. Based on what already has been happening in Figures 1, 2, and 3, the United States and Europe are especially likely to be adversely affected. The countries that are likely to fare better are ones that don't require as much energy per capita. These countries are likely to be in warm climates and have relatively poor populations, such as those in Southeast Asia".*

# The collapse of civilization follows an accelerated rate of decline curve

2023-05-06

It's not only the decline of oil that will follow an accelerated rate of decline in the future (I have written recently about it [here](#)). Also the collapse of civilization follows a similar decline curve, because oil is the motor and lifeblood of civilization, what happens to oil, happens to civilization overall. Statisticians have seen a correlation between GDP growth and growth in fossil fuel production. When oil production rises, GDP rises. This is a wellknown fact among peakoilers.

An accelerated decline rate is that something declines faster and faster, not linearly, but abruptly, like a [Seneca cliff](#):



**The collapse of civilization is happening right now**, as I write, pretty fast (some say that it gets worse every day), because of the banking crisis in America, which reminds of the fall 2008, but this collapse started very, very slowly, and a very long time ago (in some sense [John Michael Greer](#) is right when he says that the collapse of civilization will be slow. But he misses the fact that the collapse will accelerate with time, i.e. be very, very abrupt in the end. There [David Korowicz](#) is more on track of truth, he speaks and writes a lot about a quick collapse in the future).

Some experts say the collapse of civilization started already 1971 \*, when US oil production reached its peak, when we got [the first big energy crisis](#), and president Nixon abandoned the [Gold Standard](#) in America because of tough financial times, so that afterwards the dollar didn't need to be backed up by gold any more. This revolutionized the financial market, and saved the economy, but only temporarily.

If collapse can happen when oil production is rising, imagine then how fast it happens when oil production is declining, and then, imagine how fast it happens **when oil production declines abruptly**.

Civilization is such a big tower of Babel, that its collapse takes a long time. Now we have experienced 52 years of collapse. The Roman Empire also collapsed slowly. But our empire will, I think, collapse quicker, because we have no other rich empires to suck energy out from when our own declines. Industrial civilization is namely global, a global Roman Empire.

I think the collapse of industrial civilization will become full scale and global, so that no country will be unaffected, around 2030 (so also veteran ecophilosopher Kirkpatrick Sale thinks in [this youtubevideo](#)). In Sweden we will then see mainly four things, which could function as markers of a full scale collapse:

- 1) power grid failures and

2) empty shelves and

3) an exodus to the countryside.

4) We will then have big problems getting enough oil to import from the petroleum market. Some said 2011-2012 that we will have no import oil in Sweden by then (see [this Swedish blogpost](#) by me).

Seven years of accelerating collapse from here on could certainly take us there. I have such a gut feeling.

If you follow the investor and financial strategist and analyst [Gregory Mannarinos youtube blog](#), you have maybe observed that he not seldom says that the fall of the economy goes even faster than before. This is what the accelerated decline rate is about.

But no economic commentator is more black and apocalyptic than Michael Snyder. Maybe it is his apocalyptic Christian faith that makes him so. Read what he said recently:

*"Economic activity is rapidly slowing down all over the world,"* (Michael Snyder in [this recent blogpost](#))

So therefore it's perhaps not so outstanding that I believe that I will die from starvation at the latest 1.1.2036, which I have written about before many times on this blog.

I try to do the best I can out of the short time left. I hope some politician reads my apocalyptic blog posts, and understands how short time is, and speaks to the parliament about the need for preparation, for nationwide prepping, survivalist training and resilience building.

\* according to heavenly church historians, the collapse of civilization began already with the death and resurrection of Jesus, then the empire of evil got its biggest death strike, and after that it has only been a matter of time before Satan is finally defeated. In heavenly church history, the collapse of civilization has three very important milestones, and that was

- 1) 30 or 33 AD, with the death and resurrection of Jesus,
- 2) 1971 AD, with the US oil peak and the abandonment of the gold standard, and
- 3) 2018, when all oil production (all liquids, globally) peaked and we reached Peak Civilization and subsequently Peak Everything.

# The oil imports of the great empires: US, EU, China and India. More global net oil exports mathematics.

2023-05-08

(this sad article can very well be read to the tunes of the exceedingly sad and romantic song [Like a Tattoo](#), by Sade. How I love you all, collapsniks and peakoilers!)

Study [this list of 85 oil importing countries](#).

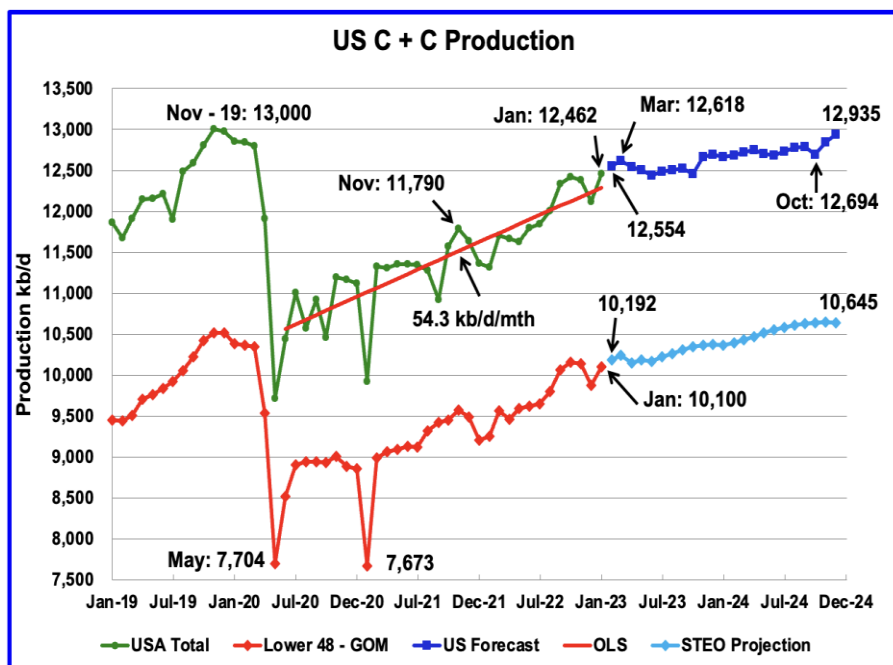
## The US as a net oil importing country

The US imports little (in net oil import values) oil nowadays, according to some sources on the internet. Maybe those who say that US does not import much oil (net oil import is in question), are wrong. After all, the US consumes over 20 million barrels of oil per day (mbd) ("*In 2022, the United States consumed an average of about 20.28 million barrels of petroleum per day*", [this article](#) states), and produces only up to 12,5 million barrels itself of crude + condensate (NGL, natural gas liquids, is not counted here, this and several other strange "oils" [things like biofuel and refinery gains] comprises about 40 % of US "oil", according to oil geologist Art Berman. But since NGL and the other "oils" **do not contain diesel**, we should take them into our calculations only with this very important fact in mind).

So US could in fact import up to 7,5 million barrels per day in 2023.

If we also count NGL+strange "oils" (NGL+), then US in fact does not import much (40 % of 20.28 mbd is at least 8 mbd), but it is tricky, **it fools us to think everything is okay**. But since NGL and the other strange "oils" do not contain diesel, they are pretty worthless for the real work in society, for trucks and ships and things that

really make something. Therefore we count them here only with this in mind. The NGL+ factor creates trouble, because I do not know if NGL+ is also counted in the oil import numbers of the other countries further down in this article. This makes my calculations messy. But I have to stick with the numbers I get, and conclude that my numbers are conservative, because **there always lurks some big amounts of NGL+ in there**. We have to count the NGL+ of the US in order to be fair to the numbers of the other countries, and I also notice that I do not easily get the numbers to line up with Jeffrey J. Browns estimates of the available oil exports in 2021 (30 mbd) if I do not count the US NGL+.



(the graph is from [this blogpost](#) on the blog "Peak Oil Barrel" 11.4.2023)

## Net oil imports outside of US

Outside of US we are left with three big importers of oil, all big empires: the EU, China and India.

The EU imported 13.5 million barrels per day in 2021, according to [this article](#). I don't think the amount of import has fallen since then.

China imported roughly 10 million barrels per day in 2022 according to [this article](#).

*"India's crude imports averaged 4.5 million bpd in January,"* (2022), according to [this article](#).

So, now we have the needed numbers, and we can begin to calculate:

How much net oil exports does these three empires consume, EU, China and India?

EU: 13,5 + China: 10 + India: 4,5 = a total of 28 mbd of oil imports.

If Jeffrey J. Brown is correct in [this article](#) (from October 14, 2021), and the world had only 30 mbd of oil exports in the end of 2021, then we are still at around 30 mbd of oil exports today, and the rest of the world have to share only 2-3 mbd of oil exports. This seems unlikely. And probably the amount of total crude oil exports have gone from 30 in the end of 2021 to 28 in the early 2023. At least.

From where did Brown get this 30 mbd number of oil exports? I think he got it is because he counted only crude + condensate, where the diesel lies. Therefore I have to subtract the non-crude/condensate from this 28 mbd of oil exports that I got for 2023, and the amount of oil that is not crude + condensate is about 17 %. For confirmation, see the graphs on the blog Peak Oil Barrel.



Well, 17 % of 28 mbd is 4,76 mbd. Then we subtract 4,76 mbd from 28 mbd and we get 23,24 mbd. This is a more reasonable number. Then world outside our four empires get to share 6,76 mbd of oil exports in 2023.

But if we only count conventional oil, which is also the type of oil Brown could have intended with his 30 mbd number, and also is what really counts here (condensate is not at all as valuable in the refineries as real crude oil, conventional oil), then we have to take 30 % of 28 mbd away. 30 % of 28 is 8,4. Furthermore, 28 - 8,4 is 19,6. Then the number is even more reasonable, and then the world outside our four empires gets to share 8,4 mbd in 2023. Think: all the oil import countries in most of Asia, all of Latin America and all of Africa get to share 8,4 mbd of oil exports in 2023.

This 8,4 mbd number is the real thing here. It is what the big four empires want to consume, more and more as time goes by. As the domestic oil consumption rises, and global oil production falls, all want these 8,4 mbd of export oil that goes nowadays to the poorest countries in the world.

Can you then better understand why Jeffrey J. Brown in [this long interview](#) (somewhere in the middle of the article) in 2015 said that in 2032 China and India would together consume all of the remaining oil exports on the global market? Do you understand how fast these countries grow? In 2022 China had a bad year, and according to the president of China it grew during that year with 4,4 %. See [this article](#). And India grows even faster: *"India's gross domestic product (GDP) for financial year 2021-22 expanded to 8.7 per cent, highest in 22 years in terms of back series data."* (from [this article](#)).

If we only put a average value of 5 % of annual growth for Chindia (China and India combined), from 2022-2032, and assume that their combined oil imports will grow with 5 % annually, from 14,5, then the oil imports grow in the first year (2023) with 0,72 mbd, to 15,22, and the following year (2024) to about 16 mbd, and the following

year (2025) to about 16,8, and the following year (2025) to about 17,64, and the following year (2026) to about 18,54, and the following year (2027) to about 19,46, and the following year (2028) to about 20,43, and the following year (2029) to about 21,45, and the following year (2030) to about 22,52, and the following year (2031) to about 23,62, and the following, last year to about 24,80.

So, 2032 Chindia could theoretically consume 24,80 mbd of the available export oil on the global market. Because GDP growth and oil consumption is tightly linked.

24,80 mbd. This leaves us with 3,2 mbd of export oil for the rest of the world. But **remember that the rest of the world is also growing its GDP**, is also growing its oil consumption. And remember also that the volume of oil exports available on the global market declines during this same 2022-2032 period. With about one mbd every year, at least, on average. And the decline accelerates. So that it declines from 28 mbd in 2023 to at least 15 mbd in 2032.

**And somewhere on the way Chindias consumption crosses ways with the rest of the world on the decline curve of the total amount of available oil exports on the world market.** If we have 15 mbd of net oil exports in 2032, and Chindia needs 24,80 mbd in 2032, you see that this crossing will happen well before 2032.

Therefore this 2032 number **is a best case scenario**. In [my book about oil exports mathematics](#) I concluded that **available** net oil exports (which means oil exports minus Chindia) will reach zero already in 2027, if we are lucky. It rhymes with the conclusions of this blogpost.

Jeffrey J. Brown calculated this already ten years ago, or more, and it is remarkable how everything follows in the tracks of his calculations. The only thing is that he was maybe too conservative, but this may have been because he followed what the official data said, in his

calculations, that he built on official, corporate and government data, which have the tendency of overstating how much oil we have.

## Conclusion

However I massage the data and hope (or not hope) for a prolonged time for civilization to exist, I always reach the end of global oil exports somewhere around 2030, as a best case scenario, exactly where Jeffrey J. Brown and **all the others who have calculated**, have ended.

Prepare accordingly.

# The Essene prophetic calendar and the final period of history, 2025-2075

2023-05-12

The American prophets Josh Peck, Ken Johnson and Tom Horn are very interesting. They say, based on the [Essene](#) prophetic calendar (see the links below) from the time of Jesus and many centuries before, that the final "[Jubilee](#)" (a Jewish concept) period of mankind is a fifty year period from 2025 to 2075, during which the Millennial Kingdom will begin. Here is much to study, and I recommend that you study the youtubevideos below (seek for youtubematerial with several different search words, there is a lot out there), it is easiest. There is not many articles about these things.

But the interesting thing for me is that, according to the most (wildly) optimistic estimates, from pages like "Our World in data" (see their fossil fuels reserve estimates [here](#)), we have 51 years of oil reserves

left, and that is almost exactly 2075 (more exactly 2074), when our age ends.

Probably civilization will collapse during the period 2025-2075, as I have prophesied before. Therefore the old Essene prophecies are so interesting. They align with the data we have about the future.

If the Millennial Kingdom begins 2075, at the latest, we have 18 980 days left to live. By 2075 I will be 90 years old. I might survive until that, if some form of civilization persists until then.

There is many thing that have to happen before the Millennial Kingdom begins. Much has to take place during the 50 years 2025-2075. For example the Rapture, The Fall of Babylon or Civilization, The Great Tribulation, The Reign of the Antichrist, and the Second Coming of Jesus and the Resurrection of the martyrs and the Bride of Christ (the First Resurrection).

[See these youtubevideos](#) (search words "essene prophecy 2025-2075")

[2025: The Year the Essenes and Enoch Predicted Would Begin the Final Age When Messiah Comes](#)

[Essene Eschatology Predicts ‘The End’ Starting in 2025!](#)

[DSS Calendar - Timeline Studies](#)

[Tom Horn’s book “2025” & Note added about Enoch’s 364 Cal. \(critical\)](#)

## Global oil reserve mathematics. How many years of conventional oil do we have left?

2023-05-13

This is an English update and refinement of the arguments in the following blogpost on my former blog "Forest Man", written 2019:

[Hur många år världen har kvar av de konventionella råoljereserverna om vi förbrukar olja såsom vi gjorde året 2018, in i framtiden](#)

(English: How many years the world has left of conventional crude oil reserves if we consume oil like we did during the year 2018, in the future)

### Our oil reserves in 2015. Some Peak Oil mathematics.

*(this is all understandable with only secondary school [högstadiet] knowledge of mathematics)*

Professor [Michael Jefferson](#) of the ESCP Europe Business School, a former chief economist at oil major Royal Dutch/Shell Group, veteran in energy matters, states in [this scientific paper](#) from August 2015, that

*“Put bluntly, the standard claim that the world has proved conventional oil reserves of nearly 1.7 trillion barrels is overstated by about 875 billion barrels.”*

Peak Oil blogger Ron Patterson wrote about the paper in [this article](#), and there he states that:

*“I thought the above article worth a post of its own. After all it is a vindication of what many of us have been saying for years now. And I especially call your attention to the line: “the standard claim that the*

*world has proved conventional oil reserves of nearly 1.7 trillion barrels is overstated by about 875 billion barrels.”*

*That puts conventional reserves at about 825 billion barrels.”*

So we had 825 billion barrels in August 2015. Let's try to count how many years we have left of oil reserves (conventional + condensate, I count condensate here, because it is a byproduct of crude oil, i.e. conventional oil, so condensate stands in proportion to how much conventional oil we get, and has always to be counted as a part of conventional oil reserves), starting from August 2015. I do not count new oil discoveries, which is usually 1/6 of the amount that we consume each year, because **these are almost always in unconventional oil, and if it is conventional oil, the oil is in so small fields, that the cost of producing it equals the cost of unconventional oil.**

Let's first decide how much crude+condensate we consume in one year. At the peak in 2018, we consumed 36,4 billion barrels of oil (all liquids), according to Julianne Geiger in [this article](#) on OilPrice.com.

~1/6, or ~17 % of this amount, is unconventional oil (things like natural gas liquids [NGL], refinery gains and biofuels). So we have to subtract ~17 % from 36,4.

So ~17% of 36,4 is ~30.

How many years of ~30 billion barrels yearly consumption does 825 billion barrels give us? Answer: ~27,5 years.

~27,5 years from June-August 2015 (Michael Jefferson's data was certainly some months old, at least) into the future is in the end of 2043.

Almost 8 years have passed since August 2015.  $\sim 8 \times 30 = 240$ . We have used 240 billion barrels of crude+condensate since August 2015.

825 minus 240 is 585.

So we have 585 billion barrels of crude+condensate left in our global reserves (how many talk about this?). So how many years does this give us?

585 divided by 30 is 19,5. So we have 19,5 years left of crude+condensate oil reserves. This puts us in the very beginning of the year 2043.

**So in 2043 our conventional oil reserves run out.** The decline of crude oil+condensate from the peak began in December 2018, so the decline will span over a time period of 25 years. When are we half-way through this time? Answer: 12,5 years into the future, from December 2018, which is in June 2031.

At which point the reserves will be half empty, from the point of the oil peak, which was in November 2018? Not in June 2031, because the decline of our oil reserves begins slowly in the beginning after the oil peak is reached, and the decline of oil accelerates after that, as time goes by, it has an accelerated rate of decline. Therefore it seems reasonable to think that in 2035, at the earliest, like Alice Friedemann has said in an interview, we have half of our crude oil+condensate reserves left, from the point of the oil peak.

And what about the volume of oil exports in the future? If we produce only half of the peak volume of oil (in 2018), in 2035, what happens then with the oil exports by then, because **we take it from the surplus oil**, and the share of oil exports in our global oil cake is not half the amount of total oil production, but only 37,5 % (in 2021 we had 30 million barrels per day of oil exports, out of roughly 80 million barrels per day of global oil production, if we take only crude+condensate, which the 30 mbd number of oil exports above entails). From this simple mathematical experiment we can conclude that the end of oil exports will happen well before 2030, or 2030 **at the latest**. Because if we lose our surplus oil, from the first half of our remaining oil, and this surplus is 37,5 of our remaining oil, then we will lose this surplus after 37,5 % of the way forward, not half of the way forward. And if half of the way forward is 2035, after 12 years, and 6 years in the future is half of the way, then 37,5 % of the

way is 37,5 % of 12, which is 4,5. So oil exports end according to this calculation 4,5 years into the future, which is around 2027, which is in harmony with my other calculations of the end of oil exports on my blog "Forest Man".

But what about the unconventional reserves? Won't they give us more time? No, because it is really the conventional oil reserves that matter, because unconventional oil is the high hanging fruit (according to the "low hanging fruit principle" of Richard Heinberg, that we pick the lowest fruit first), and also unconventional oil production begins with the low hanging fruit, therefore most of unconventional oil has to be left in the ground in the future as uneconomical to exploit. It cannot really be counted as reserves, because our ability to exploit it today is completely dependent on **massive debt**, so when this debt bubble burst, unconventional oil becomes too expensive, soon.

But assume that we will be able to exploit up to 200 billion barrels (just a guesswork) of unconventional reserves from 2015 and on. It does not give us much more time. Because if we count all liquids, i.e. the 36,4 billion barrels of oil per year number above, and add 200 billion barrels to the 825 billion barrels number above, so that we arrive at 1025 billion barrels, we then have to divide 1025 with 36,4, and this gives us 28,2. So from August 2015 and ~28 years into the future, is the year 2045 (1). So it gives us only two years more time, if we count 200 billion barrels of unconventional reserves from 2015 and on. Of these 200 billion barrels we have produced  $8 \times 6,4$  which is 51,2 billion barrels. We have then 150 billion barrels left. Will this amount be produced? Some of it will certainly, but perhaps not all.

But the amount of unconventional is not the real issue. The real issue is rising [EROEI](#), Energy Return on Energy Invested. **Because it does not matter, if the question is the timing of the collapse of civilization and oil industry itself, how much unconventional oil we produce, if this is done at the expense of the global economy, through financial self-cannibalization, which in the end will hurt the oil industry, and spell the demise of this industry itself.**



Also our conventional oil reserves are subject to the same "low hanging fruit principle" as described above, because the cost of those reserves is also rising, because when an oil field ages, its natural decline rate rises, and it costs more and more to produce the oil in it, you have to deploy expensive technology to get the last oil up, so called "enhanced oil recovery". The cost of all this just rises and rises with time. But still conventional oil is, and always will be much cheaper than unconventional oil.

### **Our oil reserves back in 1998. An outside confirmation of Jeffersons estimates.**

Let me end this blogpost with a confirmation for Michael Jefferson's oil reserve estimates from a very official source, namely BP's Statistical Review of World Energy (which usually overstates the oil reserves by very much nowadays), their oil reserve estimates long time ago:

Irina Slav from "OilPrice.com" wrote in [this article](#) from November 11,2019, the following:

*"In its latest [Statistical Review of World Energy](#), BP estimated the world had 1.7297 trillion barrels of crude oil remaining at the end of 2018. That was up from 1.7275 trillion barrels a year earlier and 1.4938 trillion barrels in 2008. In 1998, the world had 1.1412 trillion barrels in remaining reserves."*

We can with some simple mathematics make the last sentence confirm Michael Jefferson's oil reserve estimates above:

How long time elapsed from 1998 to 2015? The time between these years is 17 years.

1.141 billion barrels minus 825 billion barrels equals 316 billion barrels.

316 billion barrels divided by 28 (this is the average consumption between 1998 and 2015, it's my guesswork, I do not find data about this on the internet) is 11,3.

But 11,3 years back from 2015 is 2004, not 1998. Did BP understate the reserves in 1998?

Not by much if we account for the new oil discoveries between 1998 and 2015.

According to [this site](#), *"Between 1990 and 2011, the volume of global oil reserves increased significantly from just over 1 billion barrels in 1990 to nearly 1.7 billion".*

If we account for global yearly oil discoveries of at most 1/3 of the yearly consumption (today it is 1/6, it is declining all the time), we have accounted for an additional 5 years to the 11,3 number above. Then we are almost at 17 years. So BP did not miss the mark by much back then. We just found **a lot** of unconventional oil since 1998. Remember that 2010 was the year when the Shale oil revolution began. We found the Shale oil reserves, and they were huge. But all this only shows that BP was pretty on spot with its estimates of conventional reserves back then in 1998, and that there is a broad agreement between BP's Statistical Review of World Energy 1998 and Michael Jefferson's calculations in 2015. The main lesson from this is that **we should not mix conventionals and unconventional when we calculate oil reserves, and that we cannot count on our enormous unconventional oil reserves when we try to calculate the remaining amount of reserves that are economical to produce**. Why? Because only massive amounts of debt makes unconventional oil possible to produce at all, because of their very low EROEI. And remember that the EROEI rises exponentially, and we have to go exponentially into debt to fund all this. It's not sustainable.

## Epilogue

In the end, it's good to listen to the Bible in these matters, to gain wisdom. There it is written: "*Teach us to number our days, that we may gain a heart of wisdom.*" ([Psalm 90:12](#)) As Guy McPherson likes to say: Our days are numbered.

(1) Professor [Charles S. A. Hall](#) (b. 1943) said 2022 in [this youtubevideo](#) that we had 25 years of oil left, that puts us in 2047. That's only two years more than 2045. It's not much. But Hall missed the mark somewhat. But still it is somehow a confirmation of my calculations above, compared to the official oil reserve numbers.

# The cost of climate change is a part of the EROEI of oil and all fossil fuels

2023-05-14

(for a definition of EROEI, see [this Wikipedia-article](#))

One of the things that makes us often underestimate the EROEI of fossil fuels and especially oil, is that **the cost of climate change is a part of their EROEI**, and the cost of climate change is exceedingly difficult to quantify, globally. The costs globally are in several trillions of dollars yearly, by now, I think. This is my guesswork. But **only for companies** climate change will, according to [this article](#), cost 1,3 trillion dollars in 2026, three years from now. Add to these costs the cost for the average person, yes for the governments themselves. And I think the article above underestimated the future costs.

## A self-reinforcing feedback loop

At the same time as climate change worsens, the costs of climate change also rises, in that the cost of the energy to repair the damages from climate change and rebuild, rises (because of Peak Oil and declining EROEI), very much because of climate change itself, which makes energy expensive, in a self-reinforcing feedback loop. Do you see what I mean?

There is another aspect to it as well. Global warming comes from energy use, and the more we use energy, the worse global warming gets, and the more damage global warming does, the more energy goes into repairing the damages and rebuild, and the more energy we use, the worse climate change gets, and so on, in a vicious cycle, until energy begins to decline, but then the energy costs continue to rise, much because of runaway climate change, where the more we repair and rebuild, the more climate change will destroy, so that it takes even more energy (which costs even more) to repair and rebuild, exponentially. The costs of climate change are exponential, and have always been so. All self-reinforcing feedback loops are exponential.

## Umar Haque about the cost of climate change

British economist [Umar Haque](#) wrote in [this article](#) from 2021:

*"So what about climate change? The IMF has estimated that climate change [costs about 7% of global GDP](#) — but that's just subsidies for undercharging for carbon (if that makes your head spin, don't worry about it.) That doesn't factor in the damage caused by climate change — megafires, megafloods, mega-hurricanes, and so forth. It doesn't even factor in, for example, the global microchip shortage, [that was essentially caused by climate change](#)."*

Yes. It is really difficult to quantify the cost of climate change.

Here is the relevant piece from the first article that Umar links to in the quote above (it is a quote from the journal *Finance and Development*, the December 2019 issue):

*"Global investment requirements for addressing climate change are estimated in the trillions of US dollars, with investments in infrastructure alone requiring about \$6 trillion per year up to 2030 (OECD 2017)."*

So 7% of the global GDP went to combating climate change, was IMF:s estimate. I think it was for one year. What was the global GDP of 2021, when Umar wrote that article?

*"As of 2021, the global GDP amounted to 84.97 trillion U.S. dollars", [this site](#) writes. What is 7% of 84,97? Almost 6. So still the 6 trillion number is relevant.*

## **The end of the road**

There comes a time when it costs too much to repair and rebuild what climate change destroys, and when the energy to do it becomes too expensive, along with all the minerals and resources that the repairing and rebuilding requires, and industrial civilization will collapse under the burden of it all. So Umar Haque predicts in his article above. This collapse I think will happen around 2030, at the time when we get the first ice free Arctic, and climate change will accelerate into turbo speed.

# Soaring prices for just about everything will destroy the shale oil industry

2023-05-15

The Shale Oil industry is one of the most fragile industries on this planet, and at the same one of the most cost-intensive and capital-intensive and, from a civilized standpoint, "heroic". Heroic, because it is squeezed by two exponentially declining (1) factors:

1) The exponentially declining **EROEI** (Energy Return on Energy Invested), much because of the "low hanging fruit principle" (Richard Heinberg's term), which means that the best locations, the "**sweet spots**" (also called "Tier 1 acreage") are drilled first, and the drill locations of poorer quality (also called "Tier 2 acreage") are avoided as long as possible, because of their higher and higher EROEI. This alone will destroy the shale oil industry.

2) But. There is more. The decline of EROEI is **exponentially worsened by exponentially rising inflation** (2), leading to exponentially rising costs of the workforces, resources, equipment and transportation that are needed to operate the shale oil plays. Also that most prices outside of the matters relevant to the shale oil industry, rises all the time, affects the industry badly. Because everything is connected.

These two factors form a self-reinforcing feedback loop, because the more shale oil costs to produce, the more the energy to power the trucks and all the rest of what the shale oil industry entails, will cost (because the higher EROEI of shale oil and subsequently of all oil, trickles down to the costs of all these things), and the more this energy costs, the more the shale oil that is produced, will cost. And so on.

But think. Despite all this, the shale oil industry in the US is able to grow with at least 800 000 million barrels per day. Right now. That's almost one percent of the global oil supply. It's incredible, and says something about how big the Everything Bubble really is.

(1) With exponential decline I mean an accelerated rate of decline

(2)



(from the article "[Spot The Moment Inflation Turned Exponential](#)" by Tyler Durden on Zero Hedge, SEP 20, 2017. Observe that this graph is only until 2010, before the shale oil revolution began. Think about how inflation has exploded in recent years.

That inflation is rising exponentially is a silenced fact on the internet, you don't find much mentioning of it by googling)

## What "enhanced oil recovery", or pressing oil production to maximal capacity, does to our oil reserves

2023-05-20

*"But Simmons argues that the desert kingdom could run dry, spelling out his case in his book "Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy." The Saudis, he says, have over-worked their oil fields, pumping too much crude too quickly -- a practice that can reduce the amount a field eventually produces."*

(from [this article](#) by David R. Baker from August 21, 2005 on the site [www.sfgate.com](http://www.sfgate.com))

Think about it. This was already in 2005, when the book by Matt Simmons was published.

**Since then this issue has become worse and worse.** We want to save the day, and stave off a global recession/depression. Buy today, and pay tomorrow. Borrow the oil of the future, the oil of future generations.

["Enhanced oil recovery"](#), it's called.

For example Norway is doing this in the North Sea, Norwegian sea and Barents sea to a degree that's simply baffling. With monster technology. I read about it in [Therese Uddenfelt's Swedish Peak Oil book from 2016](#). Seven years has passed since then, and Norway just continue staving off its oil industry's abrupt decline. Remember that Sweden is completely dependent on oil imports from Norway. Much is on stake for Sweden.

It is the phenomenon that has been described many times in the Peak Oil-literature, and is best expressed by the finns Rauli Partanen/Harri Paloheimo/Heikki Waris in the book ["The world after cheap oil"](#) from 2014, with the following words:



**"Given that oil is a non-renewable resource, the faster we produce it today, and the more aggressively we try to keep production high, the steeper the decline will be when it begins."**

Mark their words.

Trying to press the oil fields to a maximum capacity, which happens globally today, is to create an petroleum bubble, which can be said to be the mother of all bubbles, and be the foundation for all bubble creations in the broader global economy. That all bubbles build upon this petroleum bubble.

This is why I think collapse will be abrupt when it happens, as people like human ecologist, systems thinker and collapsologist [David Koro-wicz](#) think. We have kicked the can down the road so far, so far, as the collapse-economist [Peter Schiff](#) often talks about.

This is the explanation for the phenomenon that the wolf seems to not appear. Maybe it never will?, some think. Why do we not live in a global depression, the peakoilers promised us this by now.

But if you think so, you are fooled. You have then forgot the phenomenon of bubbles, debt funding and such. That we can borrow the oil of future generations to the present time. Borrow it with "enhanced oil recovery". In absurdum. Until we can't anymore. And the more we delay the collapse, the steeper it will be.

So we might not have all the 585 billion barrels of conventional crude oil (+ condensate) that I calculated we had in [this blogpost](#) recently. The situation might be even worse than Ron Patterson and Michael Jefferson envisioned.

Remember that there are many things that can go wrong and make even more oil stay in the ground as uneconomical to produce. For example wars may disrupt oil flows. Locally. Hyperinflation and the

wild rise of the cost for almost everything, may also make much oil production unprofitable. Remember that everything is connected, that the oil industry need cheap prices for for example the resources that new offshore oil rigs are made of.

